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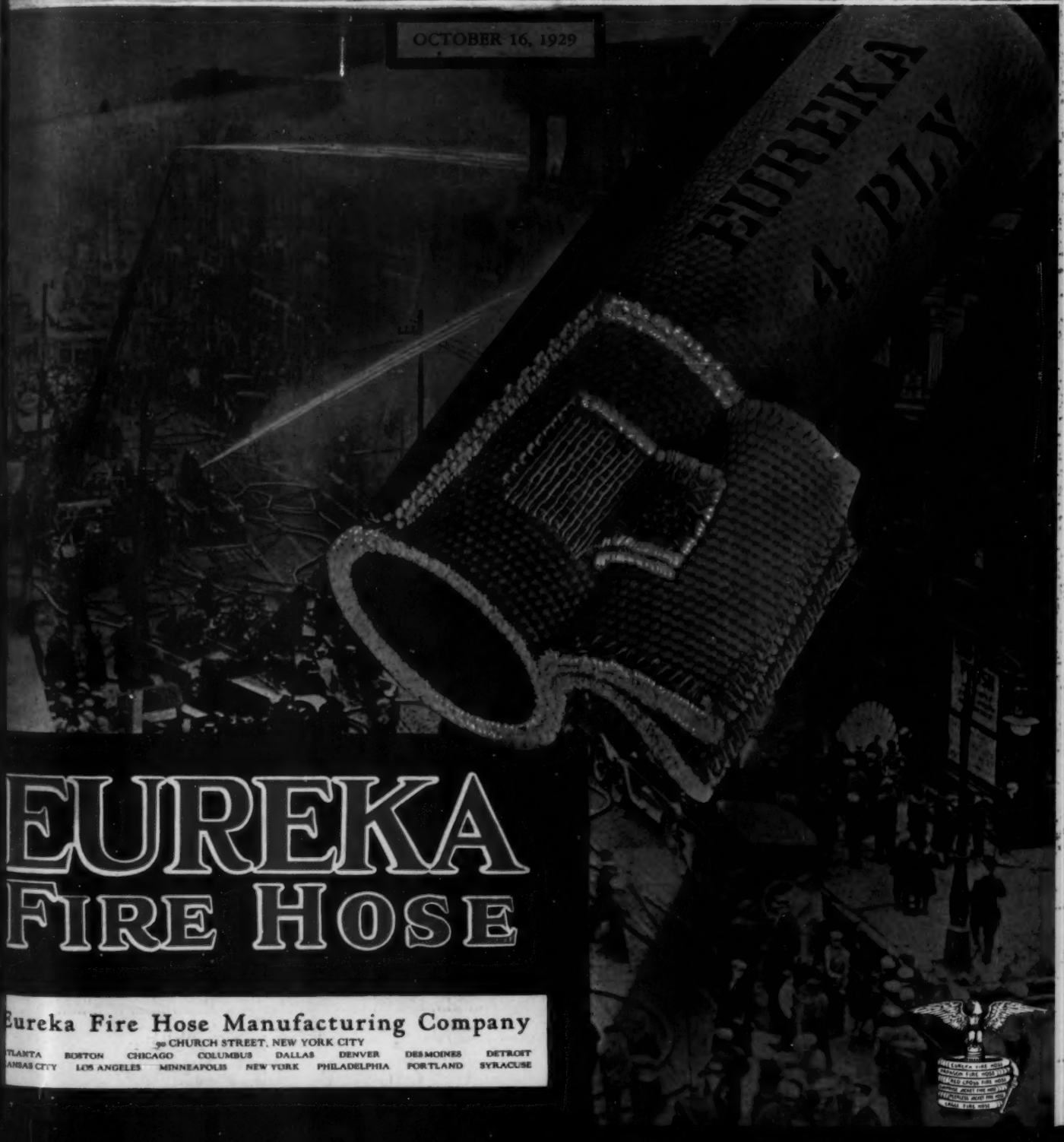
FIRE ENGINEERING

A consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER

The Journal of the Fire Protection Profession

OCTOBER 16, 1929



EUREKA
FIRE HOSE

Eureka Fire Hose Manufacturing Company
50 CHURCH STREET, NEW YORK CITY
ATLANTA BOSTON CHICAGO COLUMBUS DALLAS DENVER DES MOINES DETROIT
KANSAS CITY LOS ANGELES MINNEAPOLIS NEW YORK PHILADELPHIA PORTLAND SYRACUSE

Modern — Reasonably Priced — Standard

FARADAY

Write our engineers for free advice about your fire alarm problems.

Fire Chiefs all over find our free reference books of real value.

Complete Municipal Fire Alarm Systems
for Cities and Towns of Every Size

You can select *Faraday* equipment with *absolute confidence* that it is unsurpassed for correctness of design, quality of materials and excellence of workmanship . . . because it is the product of experienced and practical fire alarm engineers, an up-to-date factory with the most efficient machinery money can buy, skillful workmen, and a strong and reliable company manufacturing *high quality* products for almost half a century. This is why *Faraday* equipment is so universally considered

"The Best That Money Can Buy"

***Faraday* Succession Boxes are *guaranteed* to operate perfectly with any and all other makes of succession type boxes and other apparatus now in service. They have fewer parts than any other box on the market, and even these parts are *interchangeable*. Made in types for every need, such as with automatic door, break-glass-pull-lever door, quick-action door, etc.**

The Dependable FARADAY Line Includes:

Succession and P. N. I. Boxes
General Alarm Devices
Control Boards Signal Gongs
Recording Apparatus, Etc.

Send Now for Your FREE Copies of Valuable Reference Books & Catalogs!

Stanley & Patterson

Incorporated—Established 1884

150 Varick St., New York

Manufacturers of Electric Signaling Apparatus of Every Description

Entered as second class matter April 15, 1929, at the Post Office at New York, N. Y., under the Act of March 3, 1879.
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AMERICAN-LA FRANCE

ANNOUNCES UP-TO-MINUTE APPARATUS

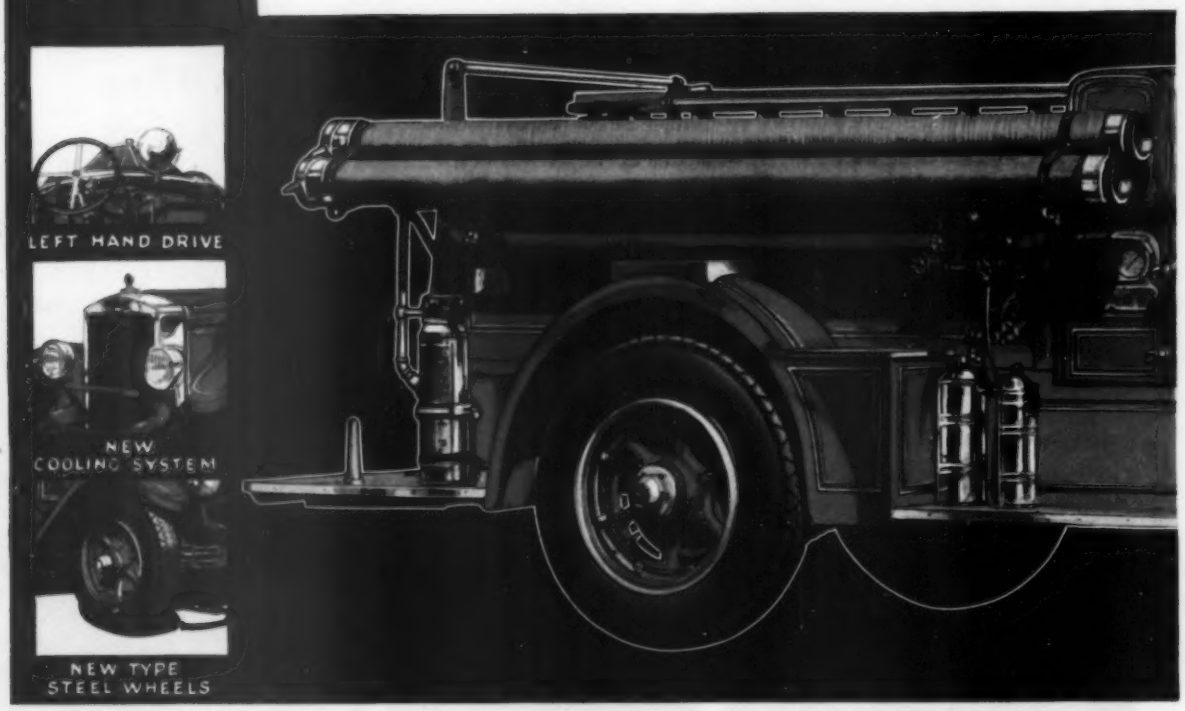
The most important achievement in motor fire apparatus building ever announced to the Fire Chiefs of America.

AMERICAN-LA FRANCE AND FOAMITE PROTECTION
A Complete Engineering Service
For Extinguishing Fires

The New Apparatus will be on exhibit at the 57th Annual Convention, Booths 1, 2, 3 and 36-47

It will help if you will mention FIRE ENGINEERING *when writing advertisers.*

NOW—THE NEW . . . . . an out-world's largest



LEFT HAND DRIVE

For the first time... apparatus built and designed exclusively for fire fighting is left hand driven. Experiment and tests by our engineers have proven the greater efficiency of left-hand drive. All units of the new American-La France apparatus have this tested and proven feature.

THE FRAME

Frames on all apparatus of the new line are of the "fish-belly" type. They are of pressed steel and are heat-treated. They are the finest and strongest frames used in fire apparatus manufacture. This new design provides strength where it is needed and eliminates all truss rods.

FOUR-WHEEL BRAKES

Four years ago American-La France Engineers began experimenting with 4-wheel brakes. No brake on the market was found satisfactory for fire apparatus use. So a new type brake was developed—of the two-shoe type, fully enclosed—approved by all state highway departments. Road tests with the new apparatus loaded with 1200 feet of 2½ inch hose and six men prove that these new brakes will stop the car within 25 feet, while the most stringent highway regulations require 35 feet. This added safety is a feature of every model of the new apparatus.

NEW TYPE STEEL WHEELS

Hollow spoke, cast steel wheels are standard equipment on the new apparatus. These wheels combine lightness with ten times the strength of wood spoke wheels. They end forever shrinking and loosening of spokes. The new wheels have only six spokes—making them more accessible for washing and cleaning.

THE NEW COOLING SYSTEM

The new cooling system represents an outstanding achievement for American-LaFrance engineers. It is a closed system, fully automatic. It requires no auxiliary feed line. Cooling is accomplished without using any water from the discharge of the pump. The full efficiency and capacity of the pump is maintained for fire fighting. The new system is fully self contained without any external discharge, and consequently a resulting freedom from mud and ice. With this new system it is possible to use anti-freezing solutions without any loss.

The radiator is of the built-up type, with polished cast aluminum top tank and side members. The core is of the verticle flat tube, finned type. The tubes are staggered—making the core the most efficient for its weight.

METROPOLITAN

standing achievement of the motor fire apparatus builders

On August 27th, 1910, the first piece of American-LaFrance Motor Fire Apparatus marked a new era in fire fighting.

Now, the new American-LaFrance Apparatus marks another great advance in fire apparatus design—an advance of great importance to the fire chiefs of America.

The New Metropolitan—leader of the new American-LaFrance line—is the result of over two years' development in planning and test by American-LaFrance Engineers. It embodies every major improvement that automotive engineers have produced. More than that, some of its features are in advance of present-day automotive design...features that will be announced on the finest motor vehicles built in America six months or a year from now. Yet the New Metropolitan retains everything that has made American-LaFrance apparatus the choice of 90% of American cities....The New Metropolitan combines a new standard of fire-fighting efficiency with a graceful beauty of line never before found in motor fire apparatus.

AMERICAN-LAFRANCE AND FOAMITE PROTECTION
A Complete Engineering Service
For Extinguishing Fires

The NEW AMERICAN-LAFRANCE

FRAME

The frame is the longest offset pressed steel frame ever manufactured in one piece. Combined with added strength this frame is actually lighter in weight than on former models. It has a drop of 8½ inches so that ladder bank and tiller seat are lowered to a point where the overall height of the vehicle is lower than any aerial built. It is easier to run in and out of stations. There is far less trouble from obstructions met on the road such as trees and overhead wires. There has been a material lowering of the center of gravity.

FOUR-WHEEL BRAKES

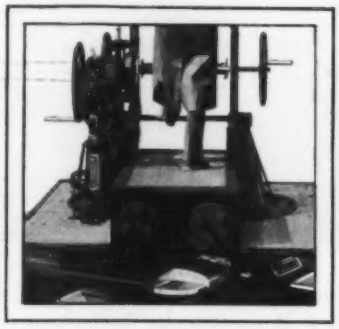
Four-wheel brakes, fully enclosed and of the two-shoe type, are standard on the new American-LaFrance Aerial. These brakes mean added safety and greatly decreased chance of collision.

CONTROL PLATFORM

Platforms are wide, long, and, for the first time on an aerial, entirely free from any obstruction. Construction is of heavy gauge sheet steel.

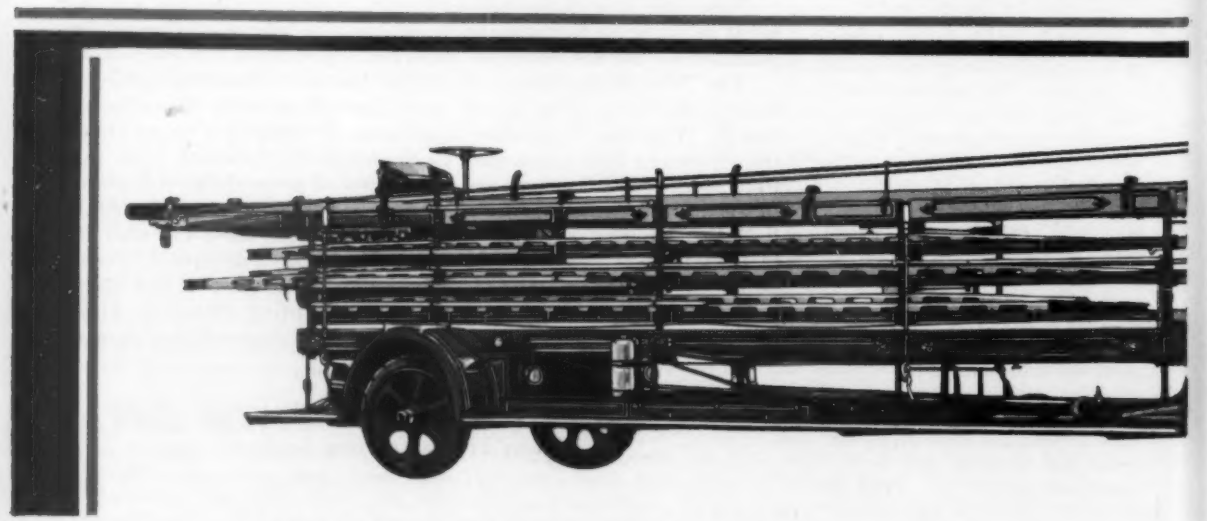
A special stamped non-skid tread makes slipping impossible. Access to the ladder is entirely clear.

There are no obstructions to step over in ascending the ladder.



NEW LOW RUNNING BOARDS

The new wide running boards are lower and more accessible. They are entirely free from obstructions. Equipment such as axes and crowbars are mounted on a special platform between the running boards. The running boards extend to the rear of the truck, where an equipment platform is provided for shovels, forks, etc., away from the mud and oil of the road.



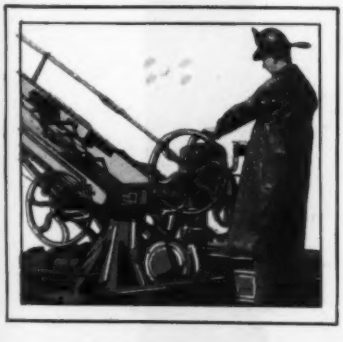
AERIAL . . . *featuring* ONE MAN CONTROL

ONE MAN CONTROL

American-LaFrance engineering has produced the *first* aerial where all controls for raising, lowering and turning are centralized.

Only one man is needed to perform all operations, releasing other men for duty elsewhere.

The ladder can be raised and lowered by one man with surprising ease and rapidity.



The New American-LaFrance Aerial is another achievement of engineers who *know* the needs of fire department work. In addition to left-hand drive and other new developments, found on all the new American-LaFrance Apparatus, the Aerial has many distinctive features, some of which are illustrated and described here.

For complete information on pumpers, aerial trucks and city service trucks of the New American-LaFrance line write American-LaFrance and Foamite Corporation, Engineers and Manufacturers, Department A-44, Elmira, N. Y.

AMERICAN-LA FRANCE AND FOAMITE PROTECTION

A Complete Engineering Service

For Extinguishing Fires

Check the six essential requirements of any fire hydrant with Darling's important points

1. **Ample Water Supply**—Darling's large barrel delivers the water at the nozzles at approximately the same pressure as at the mains. ✓
2. **Rugged Construction**—Amply strong to safely withstand abuse incident to general fire service purposes and skidding automobiles. ✓
3. **Non-Freezing**—Quick drainage, non-clogging, dependable operation and automatic in action. ✓
4. **Compression Valve**—Accidental breaking of barrel or bending of stem only draws the valve tighter—no leaks—no floods. Closes with the pressure. ✓
5. **Minimum Maintenance**—Minimum attention to maintain in operative condition and with all parts accessible through top and interchangeable. ✓
6. **Adaptability to Installation Conditions**—The Darling Extension Section is only part required to raise hydrant and nozzles can be pointed in any desired position. ✓

DARLING VALVE & MANUFACTURING CO.
Williamsport, Pa.
New York Chicago Oklahoma City Houston

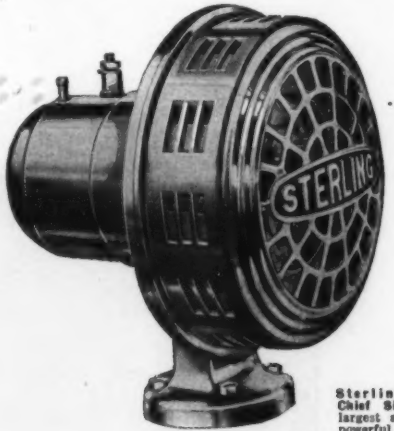
DARLING
FIRE HYDRANTS

356

STERLING SIRENS

Sterling Model "M" the most efficient sound distributor made. A powerful alarm that carries a great distance.

Sterling Little Giant a powerful intermediate size siren allowing a sound penetration of approximately ⅝ of a mile.



Sterling Big Chief Siren the largest and most powerful apparatus that will operate efficiently from the storage battery of the chief's car or fire truck.

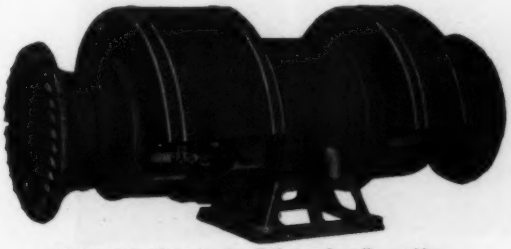
For Every Purpose

When we say there is a Sterling Siren for every purpose, we mean precisely that. Your particular problem is not solved by making a few mechanical changes in a stock siren and thereby adapting it to your purposes. On the contrary, Sterling Sirens are designed for specific uses after investigation of the fields in which they are to be used.

Sterling Sirens are manufactured by the world's oldest and largest manufacturers making sirens exclusively. This long experience has given us an unparalleled opportunity for study and research into sirens and their uses. When you purchase a STERLING, you are buying a siren designed for *your* particular needs. That is why it always pays to consult Sterling Siren Specialists about your siren problems. These specialists are at your service without obligation. Merely address:

STERLING SIREN FIRE ALARM COMPANY, Inc.

61 Allen Street Rochester, N. Y.



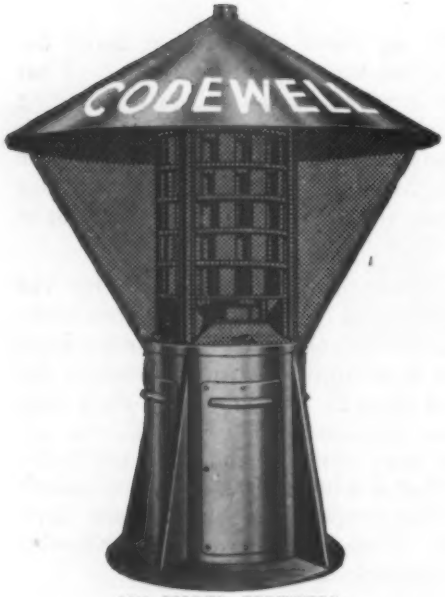
Sterling Code Siren by its distinct code calls, enables your men to know immediately exactly where a fire is.

Sterling Traffic Siren posted at important corners, pedestrians and vehicular traffic are warned in advance of the arrival of the fire department. Traffic is cleared—accidents reduced to a minimum.

Sterling No. 12 Siren for use on fire apparatus or chief's cars. Produces a powerful and heavy tone, assuring a safe and speedy passage.

Sterling Hand-Operated Siren for use on fire apparatus where power is not available. Powerful and clear—a great favorite with fire departments everywhere.

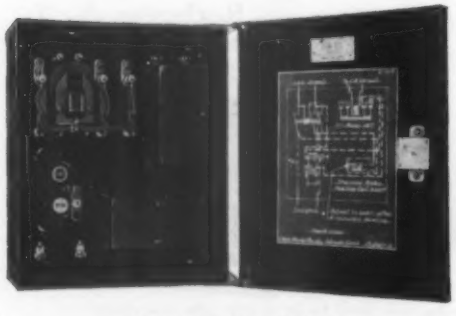
. . . . The VANGUARD of SIMPLICITY



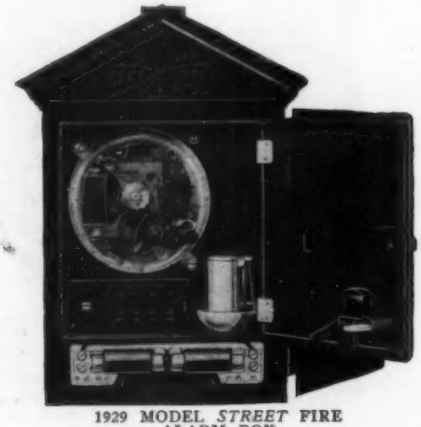
1929 MODEL CODEWELL
A public alarm for the smaller community—produces rapid code with great carrying power.

For more than 60 years, Gamewell apparatus has been outstanding in the municipal fire alarm field. During that time, some 30 or more concerns have come and gone in this business leaving behind them "orphan" systems, but Gamewell installations still go on.

Upon this enviable reputation the Gamewell Company has no intention of resting. Its organization is made up not only of older men with the wisdom and knowledge resulting from many years of practical fire alarm experience, but also of younger men, graduates of technical schools and universities. Thus, we have a happy combination —able men with years of practical experience, plus able men with modern engineering knowledge.



1929 MODEL AUTOMATIC SWITCH
Turns on lights, bells, sirens, and other signaling devices; also, shuts them off at the end of a predetermined period. Operates in conjunction with the municipal fire alarm system.



1929 MODEL *STREET* FIRE ALARM BOX
Designed for service on the street corner. Includes 18 outstanding improvements.

GAME

"A BOX

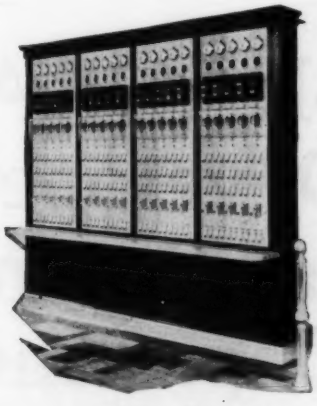
NEWTON UPPER FALLS

GAMEWELL IMPROVEMENTS

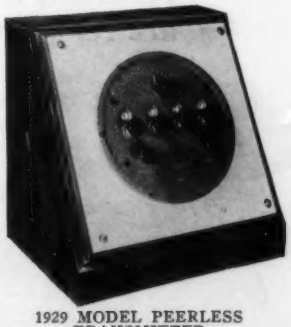
LOW MAINTENANCE COST

Consequently, we are in a position to provide new apparatus and engineering advice that will better serve the municipal fire alarm field. Here, is shown the Vanguard of the new Gamewell improvement program. It is only the beginning of what is to come. All of these improvements have been turned out within the past two years—a reflection of the progressive spirit of the present Gamewell management.

As Gamewell customers, you can rest assured that when purchasing Gamewell equipment you are getting not only the finest in fire alarm apparatus, but simplicity of design and low maintenance cost, as well. You also know that Gamewell improvements in this field will continue with the same progressiveness that is found in other fields.



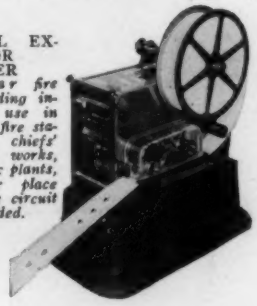
MAIN LINE RELAY BOARD
Central office 5-circuit unit type board, includes many improvements. May be added to as systems grow, without affecting appearance.



1929 MODEL PEERLESS TRANSMITTER
Used for transmitting box and telephone alarms to engine houses and public alarm.

1929 MODEL *MASTER* FIRE ALARM BOX
Intended for installation on schools, hospitals, institutions, theatres, factories, warehouses, etc. The same design as the Street Model, with the addition of the new Auxiliary Attachment.

1928 MODEL EXCELSIOR REGISTER
A popular fire alarm recording instrument for use in central offices, fire stations, fire chiefs' homes, water works, gas and electric plants, or any other place where a single circuit register is needed.



WELL

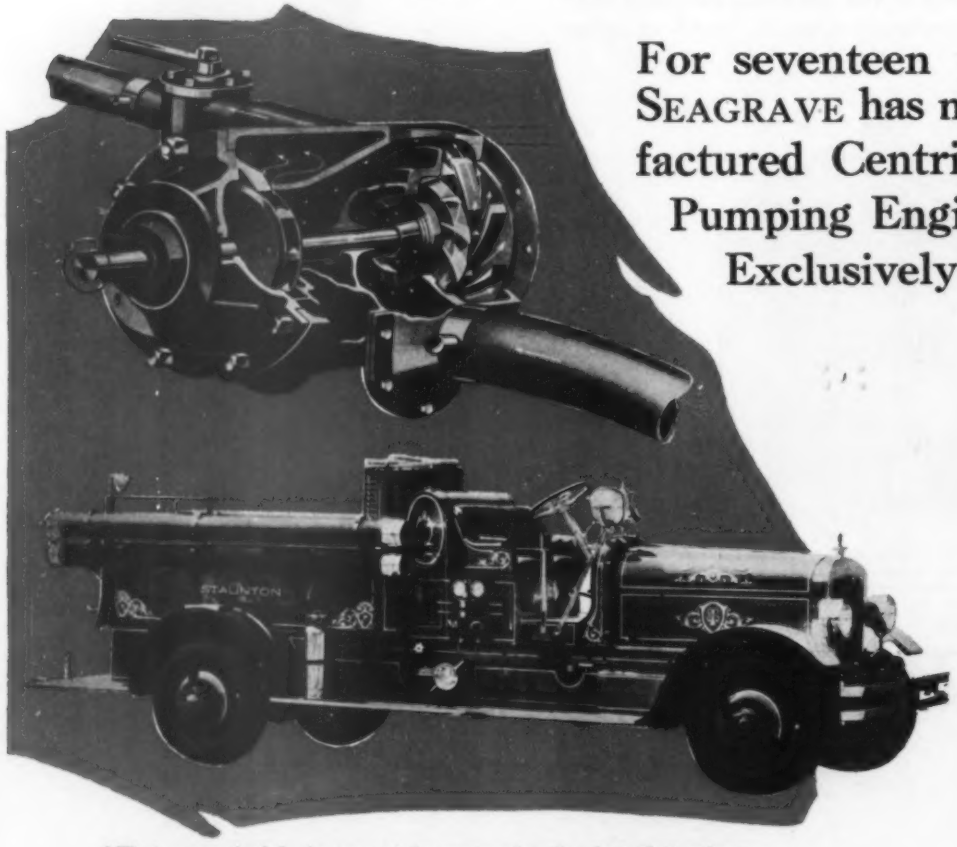
A BLOCK"

MASSACHUSETTS

Originality

SEAGRAVE Originated and Developed the First Centrifugal Pumping Engine for Fire Department Use!

TODAY hundreds of Seagrave Centrifugals are rendering efficient, trouble-free service in all parts of the country. They are renowned for their economical exacting service.



For seventeen years SEAGRAVE has manufactured Centrifugal Pumping Engines Exclusively*

***That our principle is correct is proven by the fact that other manufacturers have attempted to imitate the Seagrave Centrifugal Pump but none have ever successfully duplicated its performance.**

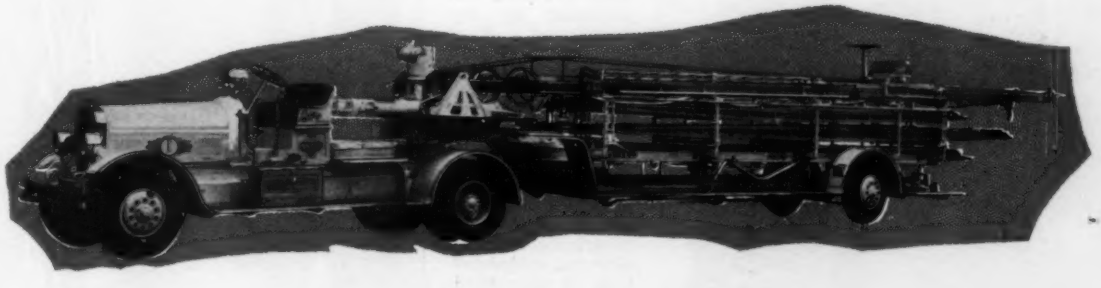
plus Efficiency-

The First Automatic Spring Hoist Aerial Ladder Truck was made by SEAGRAVE

Seagrave Aerial Ladder Trucks have been the choice of the largest cities for more than twenty-five years. There is no more reliable, less complicated or more easily handled apparatus of its kind. The Seagrave Automatic Spring Hoist Aerial Ladder has been proven under the most severe conditions and is acknowledged to be superior to any other type.

A few desirable Seagrave features.

The Laminated Ladder
Enclosed Operating Mechanism
Adjustable Hoisting Springs
Ball-bearing Turntable
Steel Channel Ladder Reinforcement
Single Lever Control
Patented Extension Ladder Lock



The SEAGRAVE Corporation

COLUMBUS, OHIO

BOSTON, MASS.
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BIRMINGHAM, ALA.
PHILADELPHIA, PA.
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DALLAS, TEXAS
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KANSAS CITY, MO.
PITTSBURGH, PA.
SEATTLE, WASH.
SAN FRANCISCO, CALIF.

FOAM EQUIPMENT *Exclusively*

PORTABLE—STATIONARY—SEMI-AUTOMATIC

Engineering Service Complete in Every Detail

NATIONAL
FOAM FIRE
EXTINGUISHER

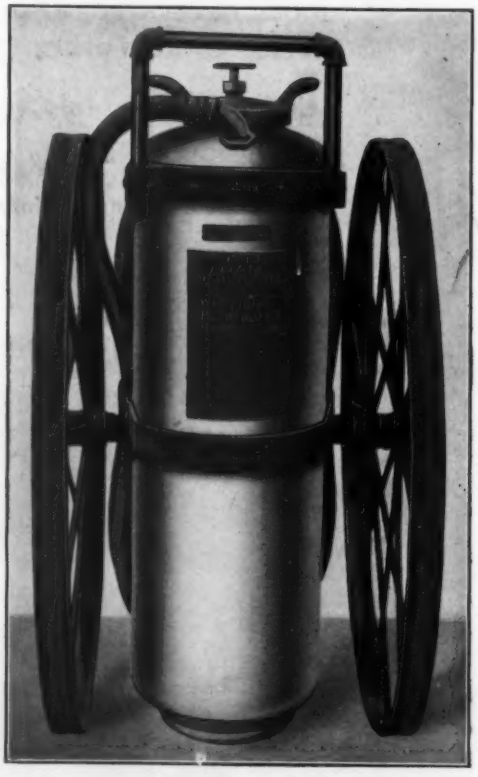
NATIONAL "DUPLEX" CHEMICAL EJECTOR

NATIONAL "JUNIOR" FOAM EJECTOR

A typical oil fire that was extinguished in 1 min., 51 sec. by a one man controlled semi-automatic "National" Duplex Chemical Ejector.

Be sure to get the full advantages of foam fire extinguishing equipment for your department by investigating and buying "National" ejectors, extinguishers, chemical engines, and recharges.

We are foam engineers and manufacturers exclusively, with long experience, and can give you equipment that is unexcelled in correctness of design, quality of materials, and excellence of workmanship. Send now for complete information.

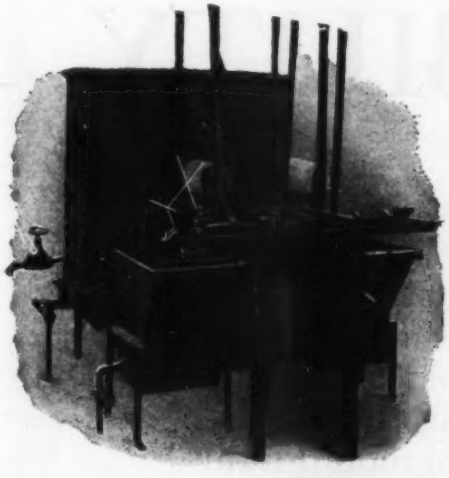


40 GAL. FOAM ENGINE

NATIONAL FOAM SYSTEM, Inc.

PHILADELPHIA, PA.

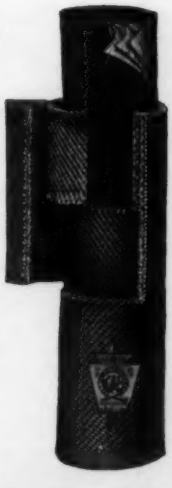
MILDEW-PROOF
.... ROT-PROOF
PLIABLE .....
... STRONG AND
DURABLE ——



It's the famous one and only dependable treating process that gives you these qualities in.....

FABRIC

Wax & Para Gum Treated Cotton Rubber Lined Fire Hose



WHEN in need of fire hose, remember that you can only get the service *out* of your hose that is built *into* it by the manufacture . . . and be sure to find out what service is *actually built into* various makes of hose *before* you place your order.

Fabric Fire Hose is mildew-proof, rot-proof, pliable, strong and durable because these superior qualities *are built into the hose.*

For instance, every strand of the high grade cotton yarn we use is passed through the *special* "wax" and *"gum"* treating machine pictured above. Every strand becomes impregnated with the hot mixture and the fabric of the finished hose is therefore *thoroughly waterproofed.*

Our booklet "Fire Hose and How It Is Made" contains further interesting information that will save you money on your hose purchases. A copy will be sent on request. Better send now and keep it on file.

FABRIC FIRE HOSE CO.

9-15 PARK PLACE, NEW YORK, N. Y.

124-126 W. Lake Street, Chicago

Atlanta	Dallas	Minneapolis	Los Angeles
Boston	Binghamton	Portland	Newark
Columbus	Baltimore	San Francisco	Pittsburgh

DEPENDABILITY

BACK of the acknowledged dependability of Boyer Quality Fire Apparatus, there are 41 years' experience in building powerful, high grade equipment. The whole-hearted and lasting enthusiasm for our equipment as expressed in letter and by word of mouth from the thousands of Fire Chiefs who use it, is a monument of evidence of the sterling character of Boyer-built Apparatus. ¶ You may be interested in our plan of financing which has enabled hundreds of cities, villages and towns the country over to acquire plenty of equipment to serve their needs adequately.

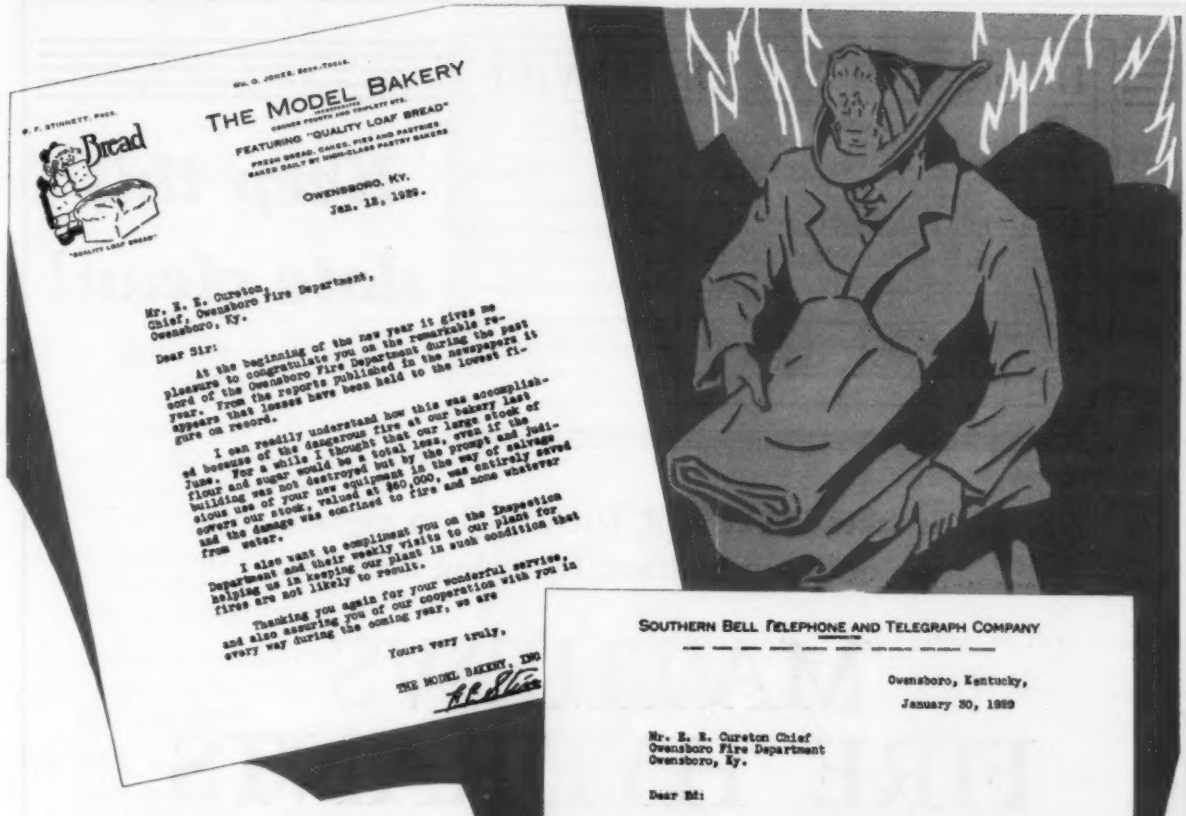
6500 of the Famous Boyer Sealed-Cartridge Chemical Tanks in Steady Operation—and Never a Failure

BOYER

Fire Apparatus Co.

Logansport, Indiana

FORTIFY FOR FIRE FIGHTING



THE MODEL BAKERY

FEATURING "QUALITY LOAF BREAD"

OWENSBORO, KY.
Jan. 18, 1929.

Mr. E. E. Cureton,
Chief, Owensboro Fire Department,
Owensboro, Ky.

Dear Sir:

At the beginning of the new year it gives me pleasure to congratulate you on the remarkable record of the Owensboro Fire Department during the past year. From the reports published in the newspapers it appears that losses have been held to the lowest figure on record.

I can readily understand how this was accomplished because of the dangerous fire at our bakery last June. For a while I thought that our large stock of flour and sugar would be a total loss, even if the building was not destroyed but by the prompt and judicious use of your new equipment in the way of salvage covers our stock, valued at $60,000, was entirely saved and the damage was confined to fire and none whatever from water.

I also want to compliment you on the Inspection Department and their weekly visits to our plant for helping us in keeping our plant in such condition that fires are not likely to result.

Thanking you again for your wonderful service, and also assuring you of our cooperation with you in every way during the coming year, we are

Yours very truly,

THE MODEL BAKERY, INC.

SOUTHERN BELL TELEPHONE AND TELEGRAPH COMPANY

Owensboro, Kentucky,
January 30, 1929

Mr. E. E. Cureton Chief
Owensboro Fire Department
Owensboro, Ky.

Dear Mr:

Every day since the fire at my residence, I have been intending to write you a letter of appreciation, but first one thing, then another, has kept me from thinking of it when at the office.

When I stepped out on the side walk and looked up at the roof of my house, all covered with smoke and flames, there seemed to me very little chance to save the house, and of course I fully expected that whatever escaped the flames would be ruined by water.

I was therefore, very agreeably surprised when you and your efficient bunch of fellows came, in less than five minutes from the time I called you, and extinguished the fire before it burned into any of my upstairs rooms at all. It was also a revelation to me the way you covered my household goods with tarpaulins and prevented any water damage to my furniture.

Please accept my sincere appreciation, and pass it along to the Boys who fought with you so faithfully. Owensboro citizens as well as insurance companies doing business in the City, have in your organization an asset of incalculable value.

With very best wishes for your continued success, I am

Yours very truly

WDH:F

—as these letters attest

Shuredry covers are just as essential to the equipment of the up-to-date fire department as the hose wagon or other apparatus.

Prominent fire chiefs throughout the country endorse "Shuredry" covers as ideal for all salvage work.

They cost less, weigh less and are easier to handle and spread than rubber covers. They do not crack when folded and stored.

Write our nearest plant for samples and prices.

Fulton Bag & Cotton Mills

Brooklyn Dallas St. Louis Minneapolis
New Orleans Atlanta, Ga. Kan. City, Kan.
Manufacturers Since 1870

"Shuredry" Waterproofed Salvage Covers

HYDRANTS OUT OF SERVICE		
Date	Location	Cause
9/25	N. E. Cor. Broad and Main	Minor repairs
27	5th and Green	Collision
28	14th and Winter	"
30	S. W. Cor. Broad and Main	"

Keep this slate clean!

It takes DAYS and DIGGING to replace the ordinary hydrant, following collision.

MATHEWS FIRE HYDRANTS

(Reg. U. S. Pat. Off.)

can be back in service in a FEW MINUTES

Read this telegram from Chief C. H. Eisenmenger of Franklin, Ohio

Write for information

PATRONS ARE REQUESTED TO FAVOR THE COMPANY BY CRITICISM AND SUGGESTION CONCERNING ITS SERVICE.

CLASS OF SERVICE — This is a full-rate Telegram or Cablegram unless its deferred character is indicated by a suitable sign above or preceding the address.

WESTERN UNION

NEWCOMB CARLTON, PRESIDENT — J. C. WILLEVER, FIRST VICE-PRESIDENT

SIGNS
DL = Day Letter
NM = Night Message
NL = Night Letter
LCO = Deferred Cable
WLT = Cable Letter
WLT = Week-End Letter

The filing time as shown in the date line on full-rate telegrams and day letters, and the time of receipt at destination as shown on all messages, is STANDARD TIME.

Received at Western Union Building, 230 So. 11th St., Philadelphia, Pa.

1929 SEP 23 PM 9 37

JA6Q1 59 NL 3 EXTRA=FRANKLIN OHIO 23

RECD SEP 24 1929 REF. ANS. BY

R D WOOD AND CO=

U 400 CHESTNUT ST PHILADELPHIA PA=

REMOVING A BROKEN HYDRANT WHICH WAS SET IN CONCRETE SIDEWALK FOR NINE YEARS WAS DONE HERE TODAY IN LESS THAN FIVE MINUTES WITHOUT ANY DIGGING A NEW HYDRANT WAS INSTALLED THE ENTIRE ACTUAL OPERATION TAKING LESS THAN TEN MINUTES THIS CAN ONLY BE DONE WITH THE MATHEWS AND I CONGRATULATE YOU ON YOUR NEW EXTRACTION TOOL=

C H EISENMENGER CHIEF FIRE DEPT.

THE QUICKEST, SUREST AND SAFEST WAY TO SEND MONEY IS BY TELEGRAPH OR CABLE

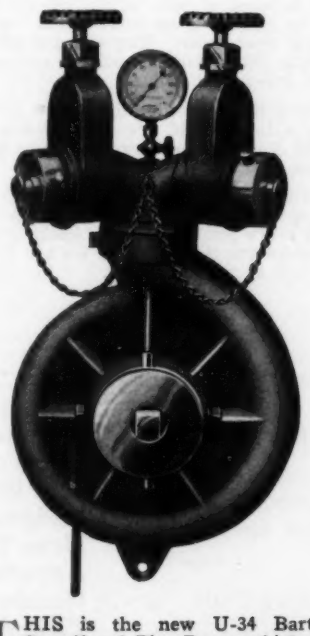
R. D. WOOD & CO.

Philadelphia, U. S. A.

Reasons Why

Operating Advantages of This New Pump

1. Pumps equally well from either hydrant or suction.
2. Handles dirt and sediment without danger of damage.
3. Large increase in both capacity and pressure when pumping from hydrant.
4. Smooth, steady performance—no pulsation or vibration.
5. Pumps any capacity or pressure without shifting gears.
6. The only type of pump successfully used for relay pumping.
7. Simple and easy to operate—one lever control.
8. No relief valve to stick and cause breakage.
9. Quick, automatic priming under all conditions.
10. Priming not affected by wear.
11. Equipped with friction clutches requiring no adjustment and insuring positive drive.
12. Light weight, yet finest and most dependable construction—ball bearings throughout.



THIS is the new U-34 Barton Centrifugal Fire Pump which recently passed the 12-Hour Test of the National Board of Fire Underwriters. It is approved for front end mounting on either the Chevrolet Six or Model AA Ford, offering 300-gallon capacity.

Aside from the important advantages here listed, there is one other—LOW PRICE. Specify this new Barton Pump and save that big difference. Sold by all leading apparatus companies. Consult any of them, or write us for full particulars.

Advantages Found in Its Front End Mounting

1. Attaches to additional cross member which reinforces chassis frame.
2. Installation does not require cutting of frame or propeller shaft or any other alterations that weaken chassis structure.
3. Driven by floating flexible drive shaft between motor and pump—no radial load on motor or pump bearings.
4. Acts as vibration damper on motor, insuring smooth motor operation and no vibration.
5. Most convenient location for connecting suction hose to hydrant or pumping from suction.
6. Located where chassis headlights furnish excellent illumination for night operation.
7. Located close up to radiator where bumper protects from damage.
8. Decidedly less load on front axle than with the much heavier pumps mounted under seat.
9. Does not interfere with use of auxiliary truck transmission.
10. In case of repairs, can be immediately replaced by service pump, truck remaining in service.

AMERICAN STEAM PUMP COMPANY, Battle Creek, Michigan

BARTON
FIRE PUMPS

WOODHOUSE

The Complete FIRE DEPARTMENT SUPPLY HOUSE

WHEN in need of new equipment of any kind, be sure to get complete information from us before placing your order. You will get what you want, the price will be right, delivery will be prompt and you'll be satisfied in every way.

For almost forty-five years we have been serving the requirements of a long list of fire departments so well that they repeatedly place their orders with us for practically all new equipment desired.

This long and creditable record is certainly proof that you, too, will find it advantageous to try us on your next order. Moreover, we invite you to write us freely about your fire department equipment problems, as we are fire protection engineers as well as manufacturers.

Motor Fire Apparatus	New "Victor" Gas Masks
Fire Hose	Extinguishers, All Types
Ladders of All Kinds	Chemical Engines
Electric Signs	Chemical Tanks
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Life Nets	Apparatus Sirens
Firemen's Helmets	Nozzles of All Types
Hose Expanders	First Aid Kits
Deluge Sets	Apparatus Searchlights
Flare Lights	Station Door Openers
Fire Department Tools	Firemen's Clothing
Apparatus Flashers	Acid Jars
Firemen's Boots	Foam Generators
Etc., Etc.	Etc., Etc.

New 44th Edition Catalog on Application!

The
WOODHOUSE
MANUFACTURING COMPANY, Inc.
156 CHAMBERS STREET NEW YORK CITY

BODYGUARD

Fire Fighters' Clothing

Keeps You Dry, Warm, Comfortable, in any kind of weather

BODY-GUARD BRAND

PREPARE now for wintry weather with all its added dangers to health. Safeguard yourself with Bodyguard apparel, the cheapest and best health insurance you can buy.

Bodyguard clothing gives real protection and comfort in any weather and at any kind of fire. It is designed to permit freedom of action, with cumbersome excess weight eliminated. Made of materials that withstand the hardest kind of usage. Bodyguard apparel is used by Firemen everywhere.

Write today for our latest catalog —A copy is yours for the asking

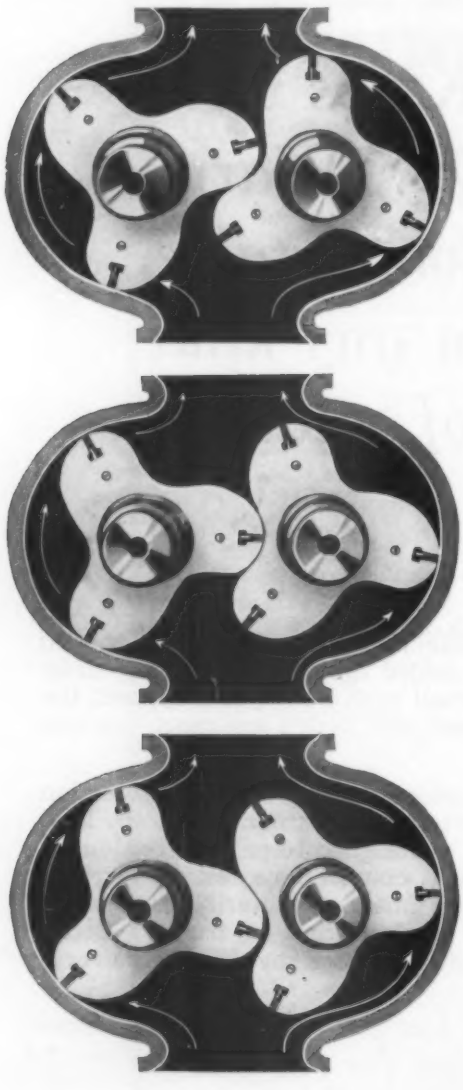
BODY GUARD MANUFACTURING COMPANY

ST. JOSEPH MISSOURI

THE NEW WATEROUS ROTARY PUMP

(Patents Pending)

The pump discussed in this advertisement is the result of the same progressive policy which has been a part of the Waterous Organization for nearly fifty years.



The Ideal Fire Pump

The new Waterous Rotary Pump is a cross between the Centrifugal and Piston types, combining the advantages of each. It is free from valves, pistons, and crank shafts; it is self-priming and has a uniform efficiency over its entire pressure range.

The New Waterous Rotor

The dissimilar rotors produce an *overlapping* discharge which in turn eliminates "dead centers." The cycle of these rotors positively eliminates water-lock, cavitation, and pulsation. The combination of all these highly desirable features will be found only in the Waterous Rotary Pump.

Hydraulic Balance of Rotors

This simple, self-adjusting, non-mechanical feature positively eliminates metal to metal rubbing between the rotors and pump heads. By thus reducing internal wear and friction the life and efficiency is further increased.

Eighty Per Cent Overall Efficiency

The extent of hydraulic and mechanical perfection of a pump is measured in its overall efficiency. Certified dynamometer tests of the new Waterous Pump show actual efficiencies of over 80%, *including the drive mechanism.*

Advanced Design—Finest Materials

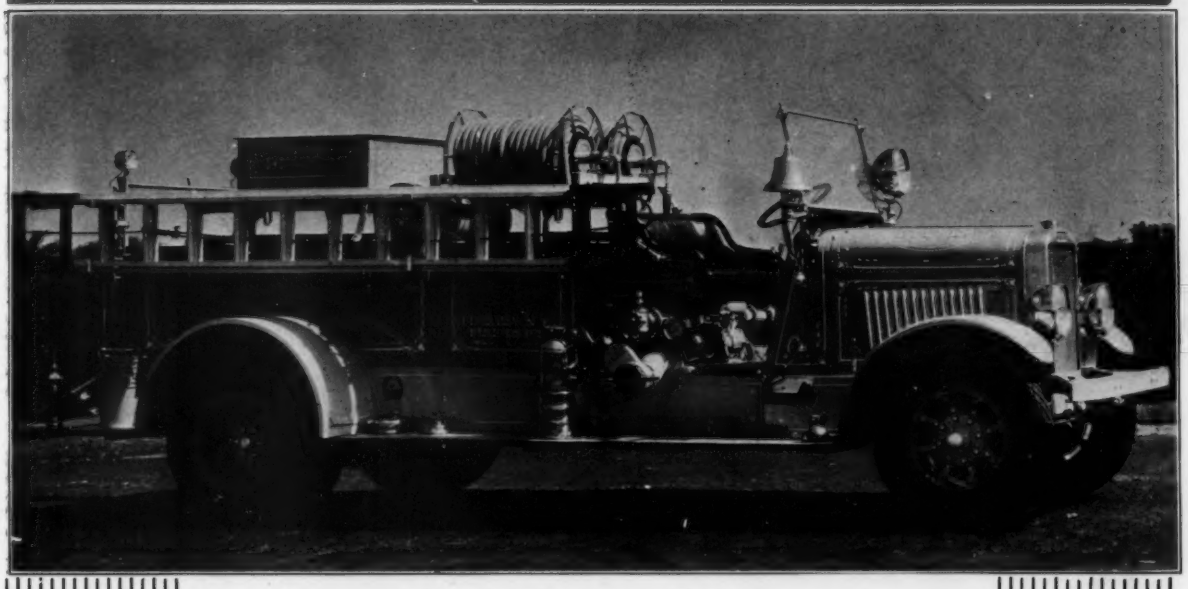
Nickel iron body and covers, gears cut from chrome nickel steel forgings, all gears hardened and run in oil, extra heavy stainless steel shafts, oversize S.K.F. ball bearings, integral seat brackets, churn valve built into pump body, discharge and suction pipes integral with body, heater casing, automatic stuffing boxes, major internal adjustments without removing pump from chassis, etc.

Specify the Waterous Pump on your new fire apparatus!

WATEROUS COMPANY

FIRE HYDRANTS—ROTARY PUMPS
WATER WORKS SUPPLIES—FIRE APPARATUS
SAINT PAUL, MINNESOTA
U.S.A.

Waterous
Dependable



Still the Greatest Value in America!

Sanford

FIRE APPARATUS

SANFORD Fire Apparatus is built as Fire Apparatus should be built—strong, durable and of imposing appearance. Efficiency and simplicity of operation make it possible for SANFORD Apparatus to stand every test. SANFORD Service is dependable. The price places it within reach of villages and towns of all sizes. Progressive communities everywhere are placing "Sanford" on guard.

500—600—750 Gallon Triple Combinations with Booster or Chemical Tanks. Also Ladder Trucks and Other Types.

THE Sanford MOTOR TRUCK

SANFORD SERVICE SATISFIES

See a SANFORD—before you buy

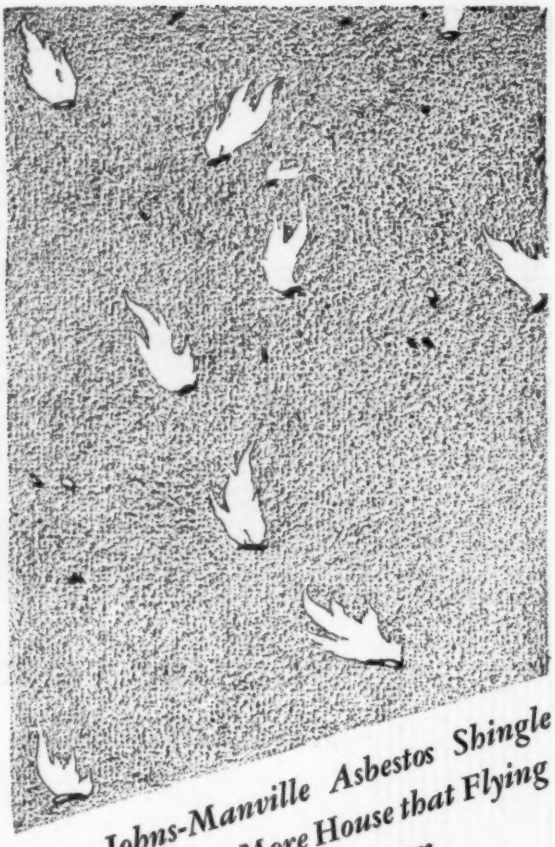
SANFORD MOTOR TRUCK CO. Syracuse N. Y.

Are *you* in favor of Fire Prevention?

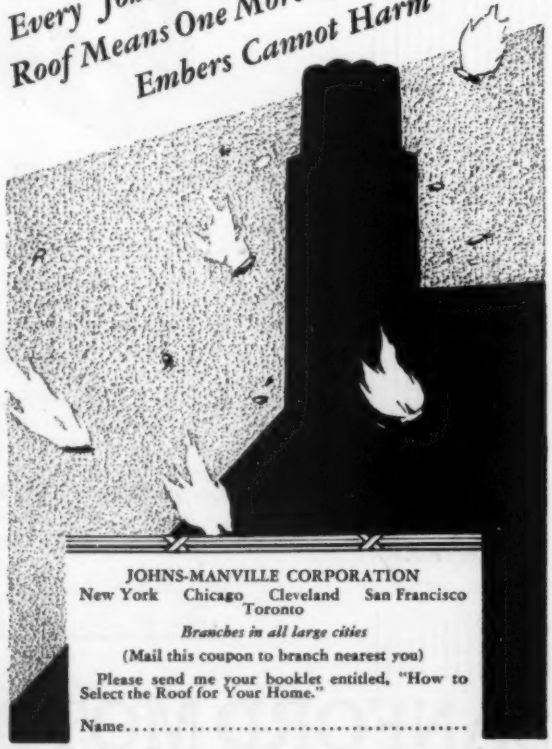
BAD as the individual fire may be, it is the idea of a general conflagration which is most disturbing to experienced fire fighters. If every house had a roof of fireproof Johns-Manville Asbestos Shingles, a general conflagration would be almost impossible. Flying embers and inflammable roofs are a combination that has spelled disaster scores of times.

Besides supporting every ordinance to end fire peril through unsafe roofs, fire fighters should give a thought to their own homes. A roof of Johns-Manville Asbestos Shingles will improve the appearance of your house, will never require replacement, and will forever prevent roof-communicated fires. Write us for our new book about J-M Asbestos Shingles.

Johns-Manville
ASBESTOS SHINGLES



Every Johns-Manville Asbestos Shingle Roof Means One More House that Flying Embers Cannot Harm



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Please send me your booklet entitled, "How to Select the Roof for Your Home."
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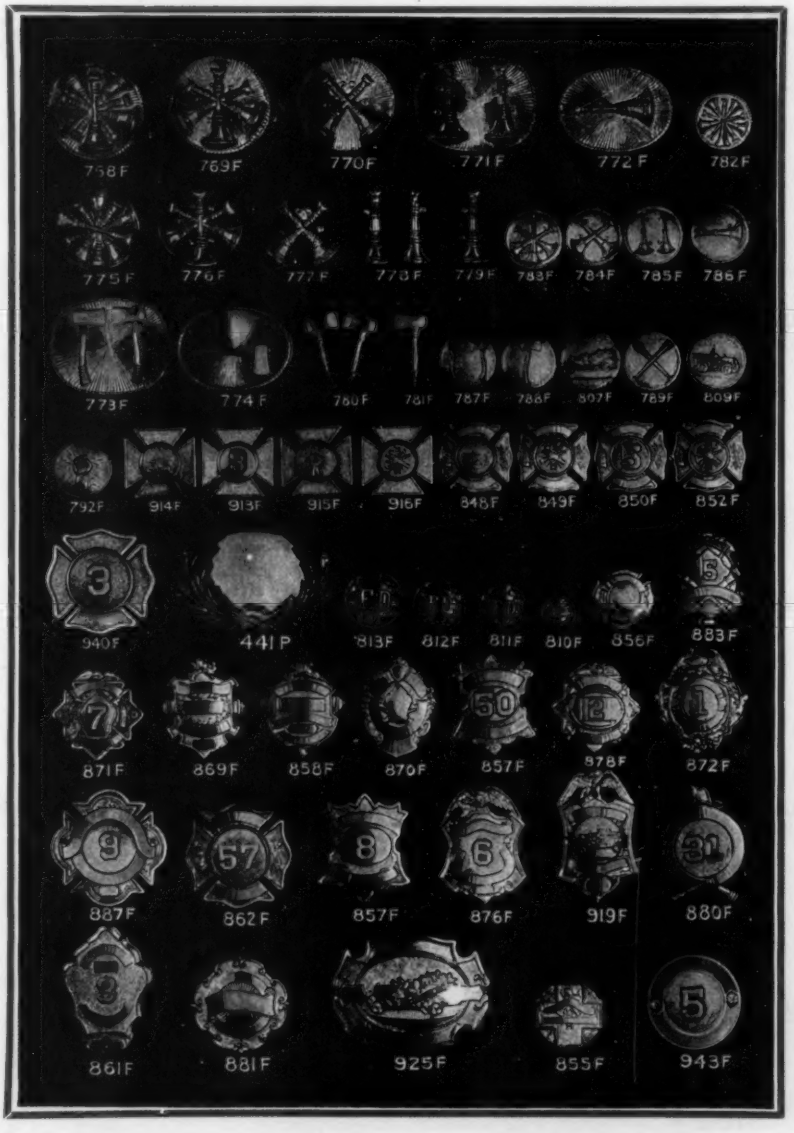

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3 GOOD REASONS

Why FIRE DEPARTMENTS *Prefer—*

HALE

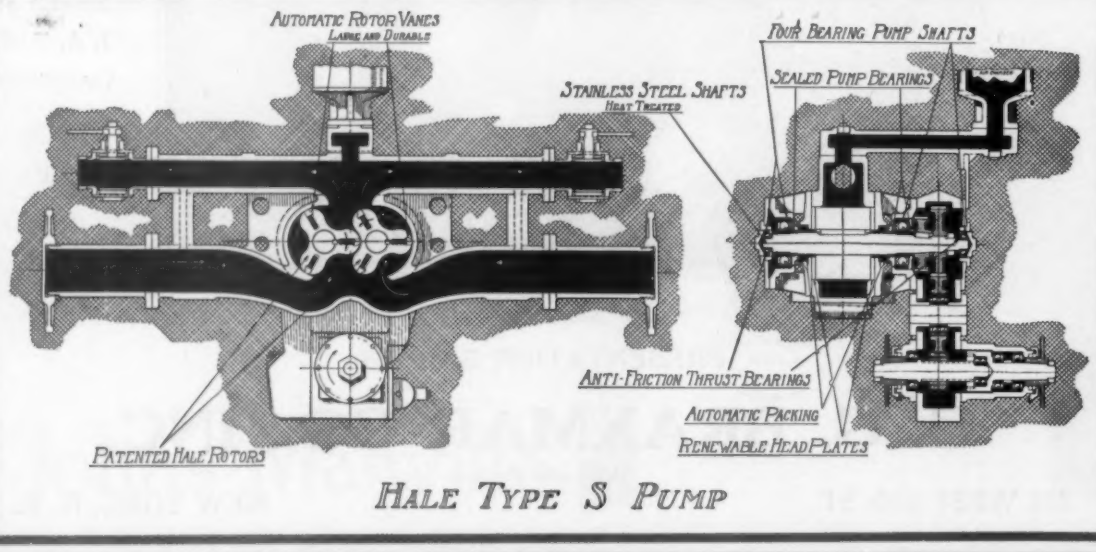
ROTARY FIRE PUMPS

1. Extremely high efficiency
2. Longer effective life
3. Greater freedom from trouble

HALE FIRE PUMP CO., Inc.

Conshohocken, Penna.

Mfrs. pumps from 25 to 1250 gal. per minute.



HALE TYPE S PUMP

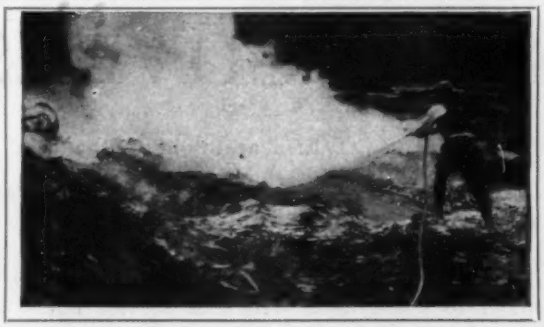
duGas

Astounding Efficiency

duGas

6' x 15' of Pyroxylin Lacquer, Acetone, Alcohol, Ether and Duco.

90 Square Feet of Roaring Fire! Pyroxylin Lacquer, etc.



The Flames, Smoke and Heat are Blotted Out Almost Instantly! Note operator working close to fire, without any special protection, and with absolutely No Risk or Danger!

"OUT!" IN LESS THAN 8 SECONDS!
Only a small portion of DU-GAS 10-gal. DRY CHEMICAL used.

MODERN FIRE FIGHTING

Without Water, Wet, Muss, Fumes, Injury or Damage!

duGas

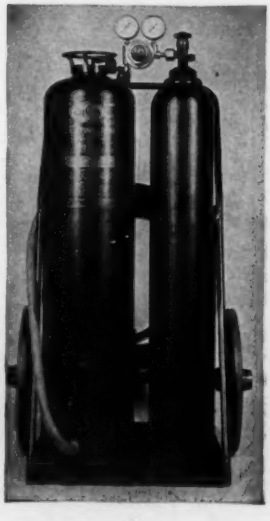
NON-FREEZING DRY FIRE EXTINGUISHER!

You can extinguish ANY FIRE with Du-Gas NON-LIQUID Fire Extinguishers more efficiently than with any other First-Aid Fire-Fighting Device—not only with the LEAST POSSIBLE FIRE DAMAGE, but with NO DAMAGE AT ALL FROM THE EXTINGUISHING!

TWO OUTSTANDING FACTS

1. Fires ordinarily considered much too large for any First-Aid Apparatus are easily extinguished by the DU-GAS METHOD, especially extra-hazardous fires such as Grease, Oil, Paint, Gasoline, Pyroxylin Lacquers and Dopes, Japanning Compounds, Rubber Cement, Acetone, Alcohol, Ether, etc., etc.

2. Even on fires too large to be put out quickly by any apparatus—fires that ordinarily have to burn themselves out—The DU-GAS METHOD quickly disperses smoke, blots out flames, dispels heat, enabling PROMPT RESCUES TO BE MADE AND LIVES SAVED!



"Make us prove it!"

Du-Gas Fire Extinguisher Corp.
11 WEST 42nd STREET
NEW YORK, N. Y.

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Bickle Fire Engines, Limited
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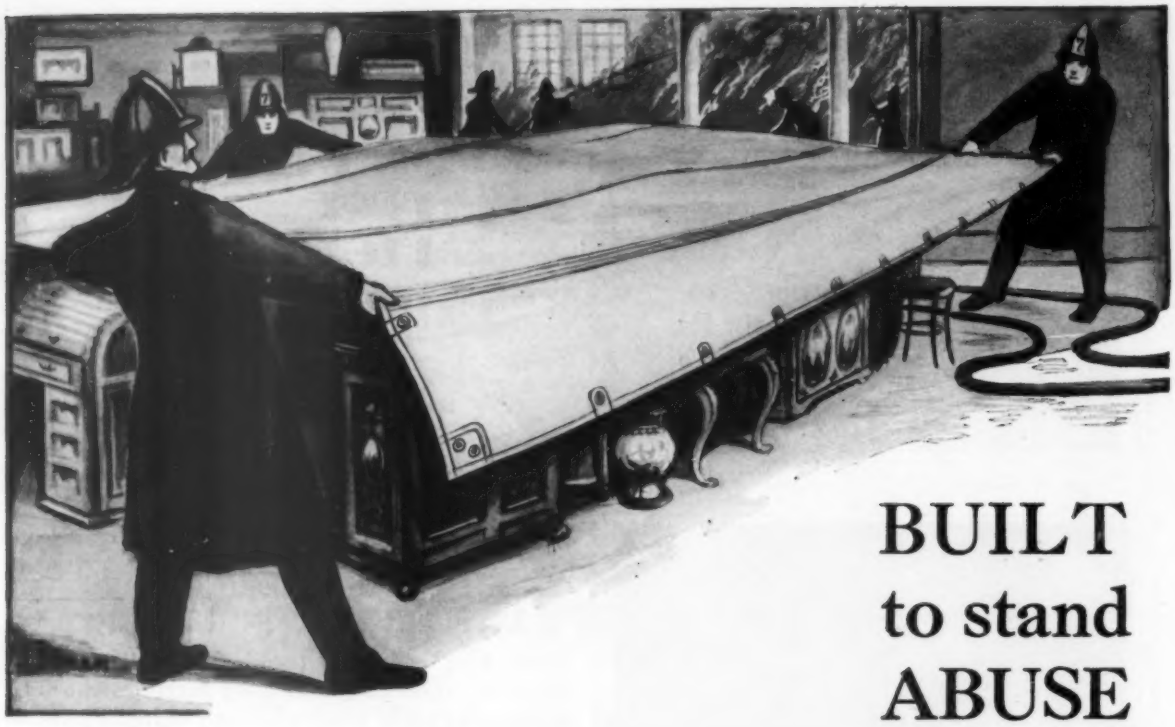
The Aircraft Distributors Corporation
Sole Distributors to the Aviation Industry
1115 Midland Building, Kansas City, Mo.

duGas

"Desirable Territory still open for Responsible Dealers

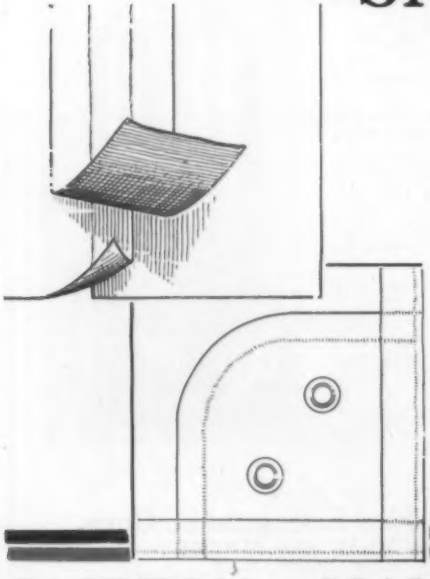
duGas



BUILT
to stand
ABUSE

CLIFTON

SALVAGE COVERS



CLIFTON SALVAGE COVERS are Built to Stand Abuse. Clifton Covers are made from selected duck, coated with the best wearing compound available. Seams are lapped and strapped; covers extra well reinforced. Double coating of, high grade, long life rubber compound on both sides.

Rugged enough to stand most strenuous service but light enough to be easily handled. Weight 38 pounds. Made 12x18 feet, which is the standard size.

RUBBER COVERS are approved by the National Board of Fire Underwriters in preference to other protective covers. Used by departments everywhere. Be sure to specify CLIFTON the next time you order covers.

Send now for complete information and prices.

CLIFTON MANUFACTURING COMPANY

JAMAICA PLAIN — BOSTON, MASS.

50 YEARS

OF BUILDING AND
EQUIPPING EXPERIENCE
IS BUILT INTO
EVERY PIECE OF

"NOTT UNIVERSAL"
FIRE
APPARATUS

READ
what satisfied
users have to say:

"Our Universal saved the "bacon" twice last week, once at 4 P. M. and again at 5 P. M.—the latter a $60,000 school house."

"I am now convinced, after watching a test of this 'Universal' Engine, that we have purchased more for our money than I had hoped was possible."—Commissioner of Public Safety.

"As Secretary, I was instructed to write you relative to the satisfactory service of our 'Universal' fire truck; also to express to you our appreciation for the wonderful service your Company has rendered to the apparatus itself by your periodical thorough inspection."

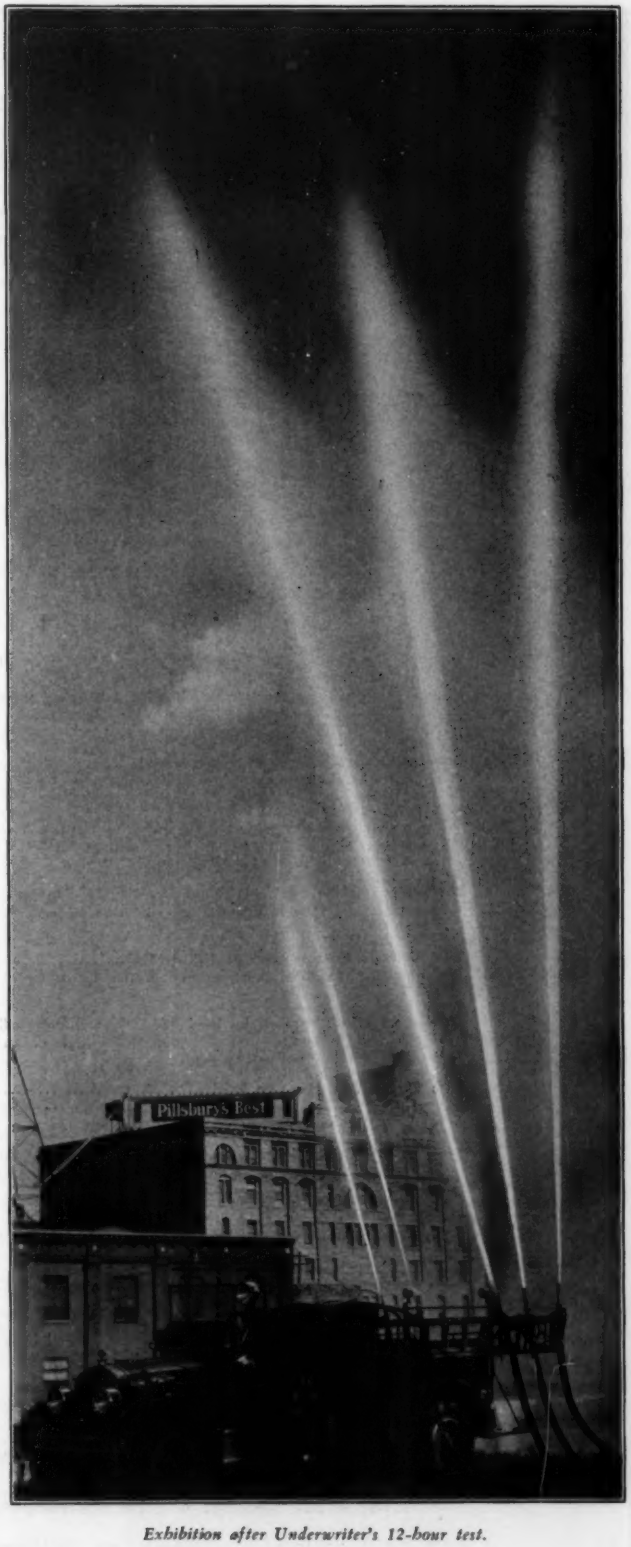
"Our 'Universal' pumped perfectly for six hours straight and did excellent work."

"We are well pleased with our 'Universal.' It is everything and more than claimed for it."

(Originals, of above quotations, in our files.)

Investigate our apparatus and compare—information on request.

BETTER APPARATUS
IS "NOTT" MADE



Exhibition after Underwriter's 12-hour test.

W. S. NOTT COMPANY MINNEAPOLIS MINNESOTA

The Journal of the Fire Protection Profession Since 1877

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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER

Published Every Other Wednesday

SUBSCRIPTION PRICE
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CONTENTS

VOLUME LXXXII OCTOBER 16, 1929 NUMBER 21

Birmingham—Its Fire Department, by W. J. Bowles (Illustrated) 917
Well Organized and Efficient Unit Guards City from Fire—History of Department—Its Present Fine Condition.

Introducing Dr. Fire-Fighter (Illustrated) 919
Companies Provided With Inhalators Have Saved Many Lives—Even Called to Assist in Hospitals.

Waiting and Wishing and Hoping (Illustrated) 921
What Firemen Do When Not Fighting Fires or Performing Some Departmental Duty—Cooperate in Charitable City Work.

The Menace of the Sliding Pole, by Dr. Carl H. Schulte (Illustrated) 923
What the Detroit Fire Department Has Learned Regarding Injuries from the Use of This Device.

The Fireman Goes to College (Illustrated) 925
What Has Been Accomplished in the Education of the Firemen—Advantages of the Short Course.

Confessions of a Fire Fan, by Karl W. Detzer (Illustrated) 927
One of Thousands Who Cannot Resist Call of an Alarm and Lure of Smoke, Tries to Explain, but not Apologize.

Who Should Test the Fire Engine? (Illustrated) 929
It's Time that Fire Departments Should Do Their Own Testing—Fully Competent for This Work.

Ventilation in Small Town Departments. By Chief W. W. Stephen. (Portrait) 931
When Only Few Lines of Hose are Available, Judgment Must be Exercised in Ventilating—Some Examples Cited.

The Round Table 933
What Method do You Employ for Extinguishing Chimney Fires?—Has it Proven Satisfactory?

With the Editor 935
Comments on Current Events and Live Topics by Our Editorial Staff.

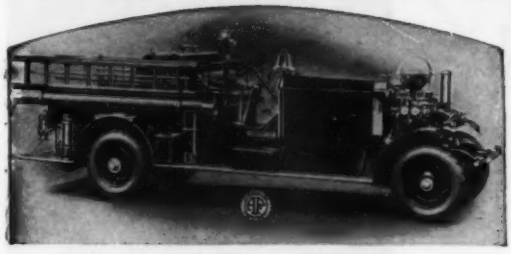
Portrait Section 937
Photographs of Leading Personages in Fire Department Field.

Questions and Answers 953
Replies to Questions on All Manner of Subjects of Fire Fighting and Fire Prevention.

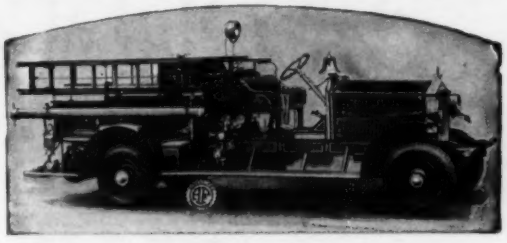
Recent Important Fires Specially Reported (Illustrated) 955
Many Lives Lost in Night Club Fire in Detroit, Mich.—Burnings of Two Weeks.

Fire Department Improvements 975
Record of Business Activities in the Fire Protection Field.

False Alarms 976
The Humorous Side of the Fire Protection Profession.



"Nothing is too good for fire service, and only the best will do." Ahrens-Fox.



You Can Now Get Modern Ahrens-Fox Quality Apparatus for Every Need

The addition of rotarystyle pumpers to the Ahrens-Fox line, *now* makes it possible for the *smallest towns* as well as the *largest cities* to have the *dependable* fire protection that is provided by modern Ahrens-Fox apparatus. The up-to-date Ahrens-Fox line now includes:

Piston Type Pumpers and Combinations

for cities that want the very finest apparatus and need large capacity pumping units. Famous the world over for dependable service.

Rotarystyle Pumpers and Combinations

for service where large capacity pumps are not needed and where limited funds will not permit Ahrens-Fox piston pumping units.

The Skirmisher

is a special combination of pumper, ladder truck, booster and hose carrier that is ideal for small towns and outlying sections of large cities.

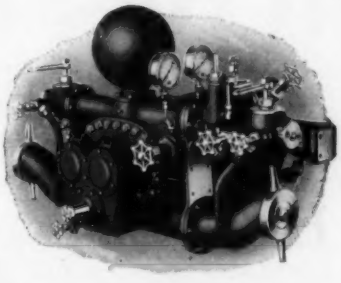
Aerial Ladder Trucks *Four Wheel Ladder Trucks*

Tractor-Trailers of Non-Aerial Type

The present day problems of fire fighting are so exacting that every fire chief deserves and should demand the assistance of the very best apparatus money can buy . . . apparatus that is especially designed by experienced fire apparatus engineers to meet the particular problems of the town or city making the purchase.

This is exactly the kind of apparatus you get when you select Ahrens-Fox equipment, so send *now* for complete information on the full Ahrens-Fox line and be sure to give this information your most careful consideration before you place any orders for new apparatus.

Do You Want All the Facts?



The New Rotarystyle Highly Efficient Pumping Unit

This Trade Mark is Your Guarantee of Highest Quality in Design, Materials and Workmanship.

The Ahrens-Fox Fire Engine Co.

"Builders of Quality Fire Apparatus"

Cincinnati Ohio

Couple up in a flash with the REED DOUBLE AUTOMATIC SUCTION COUPLER

This picture was taken at Glens Falls, N. Y. Chief W. J. Gates. Hundreds of departments are now using Reeds for Speed—Service —Economy. How about you?

1. *Slip on*
2. *Half turn*
3. *READY*

THE REED is decidedly a New and Better Suction Coupler. Gives a Quick and Easy connection of the Engine and the Hydrant, and Instant Release of the Engine from a connection.

Quick On . . . Instant Off. Slips on smoothly over connecting threads—a half turn sets it up snug—locks solid into a screw-thread bite to the engine and hydrant plug. Holds air tight against vibration and pressure.

Releases in the fraction of a second,—at the Engine, at the Hydrant, or at both so that quick moves are possible away from danger or to another location. This safeguards the crew, protects costly equipment and saves time in "taking up" after a fire.

On or off with a simple twist of the wrist!

EASILY Attached to Present Equipment. No alteration, no extra parts needed. A Reed Coupler may be attached to each end of the present suction hose without its removal from the truck. Made with male thread, female thread, or with a "sleeve" for direct hose attaching.

A Small Investment in Reed Double Automatic Suction Couplers adds equipment that will increase Department efficiency and protect valuable equipment because of the ability to make quick connections and rapid get-aways.

Here is a help to greater success and safety in the hazard of fire fighting. The Reed is worthy of a place in every progressive Fire Department. It is the Suction Coupler of Today for the Department of Today.

Send now for complete information!

Automatic Hose Coupling Co.

INCORPORATED

LEOMINSTER MASS.

FIRE ENGINEERING

(A Consolidation of Fire and Water Engineering and The Fire Engineer)

The Journal of the Fire Protection Profession

VOLUME LXXXII OCTOBER 16, 1929 NUMBER 21

Birmingham—Its Fire Department

Well Organized and Efficient Unit Guards City from Fire—History of Department—Its Present Fine Condition

By W. J. BOLES, Birmingham Chamber of Commerce

BIRMINGHAM'S Fire Department has been completely motorized in the last few years and with 24 stations and a personnel exceeding 300 men is capable of handling any fire that is likely to occur within the radius it serves. It is under the two-platoon system.

During the administration of the present chief, J. L. Akin, who was elevated to that position November 10, 1922, the number of firemen has been increased 35 per cent and four new stations have been built and equipped with 750-gallon triple combination pumpers.

All of the old equipment which did service up to a decade ago has been replaced with modern equipment, the department has been put under civil service and the men given intensive training for their work.

The department is under the general supervision of the Commissioner of Public Safety, a member of the Board of Commissioners, elected for a term of four years. The chief is the executive officer of the department with authority to make transfers and assignments, to order repairs to equipment, and to locate and repair hydrants. He has charge of the enforcement of laws regulating the storage of inflamables and explosives, and general fire prevention laws. He is a member ex-officio of the "Promotion and Demotion Committee" of the Civil Service Board provided under the State law governing appointments and promotions in the fire and police departments. He has full control at fires. The assistant chiefs are in command in the absence of the chief.

Divided Into District

The city is divided into four districts, each assistant chief being assigned as in charge of a district.

The department now has more than 300 men, 24 stations, 45 pieces of apparatus, most of which are American—La France and Seagrave, 1,604 fire hydrants, 325 fire alarm boxes and the Gamewell fire alarm system.

J. L. Akin, present chief, entered the department November 1, 1899, was promoted to foreman January 1, 1902, to second assistant chief, August 1, 1914, to first chief February 15, 1919, and to chief November 10, 1922.

The fire stations built in the last few years are modern in type, of brick and occupy sites that lend themselves admirably to beautification. The members of the department take great pride in the appearances of stations and premises. Flowers and shrubbery surrounds the buildings, and annually a contest is put on with prizes awarded to the first three adjudged to have the most attractive and best kept places.

Enlistments and Promotions

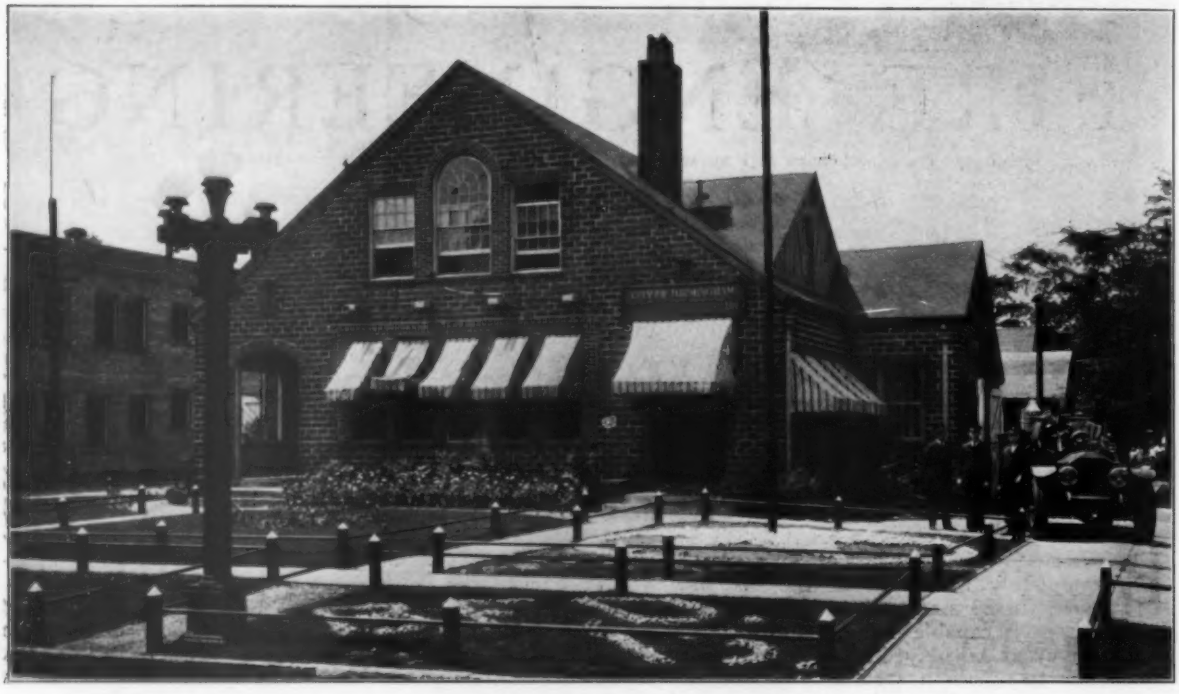
A State act of 1923 provides for a local civil service board of 5 members. All applicants for position as a fireman are subject to examination, which shall be public and competitive, with specified limitations as to age, residence and physical and mental qualifications; appointments are probationary for six months.

A Mission Type Fire Station of Birmingham

A "Promotions and Demotion Board," consisting of the chief, one assistant chief, two captains, two lieutenants, one engineer and two firemen, recommends promotions, subject to approval of the civil service board. No one is eligible to appointment as lieutenant or any higher grades unless he shall have been a member of the department for at least two years.

Any officer may be demoted upon complaint in writing to the Civil Service Board by the chief or by three members of the Promotion and Demotion Committee, upon decision of the commttee after a hearing of the charges; appeals may be taken to the Civil Service Board and to the City Commission.

The Firemen's Pension and Relief Fund is sup-



One of Birmingham's Handsome Fire Stations. Note the Artistic Parking of the Station Grounds

ported by gifts, fines, one-half per cent of gross fire insurance premiums, one per cent of salaries and an annual appropriation. Members temporarily totally disabled in active service are paid $2 a day for a period not exceeding one year, provided that he is paid no salary during such period. Any member who has become permanently disabled after 15 years service, or in the actual performance of his duty, who has served 20 years and reached the age of 55, or who has served 25 years, may be retired at half pay. No age limit is set for retirement. The Birmingham Firemen's Relief Association is supported by dues. It pays a weekly benefit of $10 and a $300 death benefit, and smaller benefit in case of the death of wife or child.

Drills and Training

Company drills are irregularly held during the season from May to November. Company school is held weekly for instruction in location of boxes, hydrants and important buildings. New men are instructed by the captains in their duties. In test runs at time of house inspection, in which companies were instructed to respond to the nearest hydrant, lay 150 feet of hose, connect to hydrant or engine, and obtain water at the nozzle, companies made from good to poor time. Ladder companies raised longest ladder and went over the top with tools. Best performance and teamwork of an engine company was 1 minute and 6 seconds. After 10 days training, this time was bettered by another company which failed badly on first test. Hose companies completed the maneuver in from 51 to 90 seconds. These tests fully demonstrate the need of a drill school, both for company teamwork and individual proficiency.

Reports and Records

A company record is kept by the captain of each company. A daily report form giving complete data of members present and absent and operations of the company for the preceding 24 hours is sent to the chief's office. A form report is made by captain of each company responding to an alarm and a special form report by captain of first company arriving at fire. These reports are recorded in the fire record by the department secretary who completes record by obtaining additional data of insurance and losses from insurance agents. A form report of each fire is made to State fire marshal. An "Apparatus Service Record" report is made monthly by each company showing miles traveled, supplies used, accidents, parts broken by usage, or accidents, and time out of service and reason for it. Operating and repair cost records are kept by the master mechanic. A complete report summarizing above information and including reports of the fire alarm system is made yearly to the city commissioners and is published.

The City of Birmingham

Birmingham covers an area of approximately 50 square miles, part of it hilly with winding streets that make rather difficult quick approach to these sections, but to the credit of the fire department it can be said that no fire of any considerable proportions has occurred in any of these districts. A building here and there burns occasionally, but with the motorized department only a few minutes are required to reach a fire in the remotest sections from one or more stations.

Birmingham is a comparatively new city, having been founded in 1871 and incorporated in December of that year. Development of coal and iron ore, the former to the north of the city and the latter to the south brought men and capital to the district and Birmingham grew rapidly. The city's population in 1880 was a little more than 3,000, in 1890 it had increased to more than 26,000, in 1900 to 38,000, in 1910 to 132,000, and in 1920 to 178,000, round numbers

(*Continued on page* 971)

Fire Department Ambulances Carry Inhalators

Chicago city officials, firemen and others were present at the Mercy Hospital when a device was demonstrated for the recuscitation of persons overcome by gas or other fumes. Each of the five new ambulances added to the fire department will carry this equipment.

Introducing Dr. Fire-Fighter

Specialist In First Aid

ANOTHER possible motion picture star has been saved for Hollywood because firemen have the training that fits them for fights against difficult odds. Back in March, the six-months-old daughter of a motion picture director in Los Angeles became ill. Firemen were called to operate an inhalator to force oxygen into the lungs.

It was a most unusual fight as far as time was concerned. For nearly ten days, firemen working in regular shifts, pumped 83,100 liters of oxygen into the baby's lungs, and after 224 hours of incessant work, the youngster was considered out of danger.

Each large fire department has incidents on record that indicate that the fire department is being appealed to more and more to give first aid treatment outside of the regular fire duties. The men are trained in the various methods of resuscitation, and both the men and the necessary apparatus are available at all hours of the day for emergency service. There is no delay—when the department is called a rescue squad or its equivalent responds.

Oxygen Administered to Infant

A twelve-day-old baby in a Chicago hospital was kept alive through the danger period by firemen who administered oxygen to the infant. Previously doctors had transfused blood from the mother at two operations and the youngster was believed to be out of danger. A relapse followed, and the fire department was called. By administering oxygen, the infant was revived and brought safely through the crisis.

Men accustomed to take chances in the performance of their daily duties, fail to see the heroic glamor in the work performed that is generally noticed by the average resident. That is why the following report presented by Captain Scanlon of a Chicago squad company to the fire commissioner gives but the meagre facts to a thrilling story. The men worked for ninety-five hours to save the baby.

"To the Fire Commissioner:

"I respectfully report that this company went out on special duty by orders from the Fire Alarm Office at 11:31 a. m. June 13, 1929. We were ordered to 1031 George St. Upon arriving we reported to Dr. J. Pishotto and was directed by him to administer oxygen from the inhalator to Baby Raymond Di Chiaro, sixteen months old, who was suffering from pneumonia. The oxygen was administered for periods of five minutes with rest periods of six minutes until 11:00 p. m. The baby's condition became worse and oxygen was administered continuously up to June 20th, when the baby's condition improved. Oxygen was then administered for one hour with rest periods of three hours. It was discontinued at 4:00 p. m. and the men so detailed were sent back to quarters by orders of Dr. L. Bower.

"On Friday, June 14th, the second day, company and apparatus went back to quarters at 12:15 p. m., leaving a detail of men from Squad Company No. 10, and one man from Engine Company No. 55 to be relieved every four hours by orders of Chief Fire Marshal Corrigan and Battalion of the 13th Battallian. After 4:00 p. m., June 20th, the men on this detail were sent back to quarters.

"Forty-five inhalator bottles, nine 100 cubic feet tanks and five 200 cubic feet tanks of oxygen were used. Two inhalators were used to replace two that were out of order. The company worked 171 hours and thirty minutes.

Respectfully submitted,
JOHN M. SCANLON,
Captain Squad Co. No. 10.

Approved and forwarded,
Wm. Koephke,
Chief of 3rd Battalion.

In Cincinnati firemen cheated death of a possible victim. A student was testing a rheostat at a substation and he touched a heavily charged wire.

When the fire department life saving squad arrived the student was unconscious and was not breathing. The body was given counter-shocks by slapping to restore the heart action. Soon a slight movement of the pulse was noted and in a half-hour it was evident that the student was breathing. Oxygen was administered through inhalators.

After an hour and a half, respiration had been restored to normal and the student was removed to a hospital, where he later recovered.

Again a city fire department was called to perform first aid work. This time it was to work on a child in a Boston, Mass., hospital who had shown no signs of life thirty minutes after birth. The doctor who attended the patient thought of the fire-fighters.

Four firemen were rushed to the maternity ward and worked on the infant under the direction of the doctors present. Nurses assisted. At the end of an hour the infant was revived and another name was added to the long list of persons saved by fire departments.

A man fifty-three years old who was receiving treatment for internal disorders in the office of a Louisville, Ky., physician had a severe heart attack. Successful emergency measures were used by the doctor and the squad called to give inhalator treatment.

Doctors and firemen were successful in saving the life of a twelve-year-old girl in Perry, Kansas. The child suffered from pneumonia and congestion of the lungs prevented natural respiration and the girl

First Aid Saves Workmen Trapped in Manhole

Four persons who were trapped in a gas filled manhole in New York City were saved by first aid methods. Efforts to save the person in the foreground were unsuccessful.

lapsed into a coma. Drainage of the lungs failed to restore normal breathing. Blood transfusions were performed with no apparent results. Two firemen worked in twelve-hour shifts administering oxygen for a period of over twelve days. This case attracted nation-wide attention, and many newspapers printed a daily bulletin of the condition of the girl. The child is alive today, and is apparently none the worse for her experience.

The inhalator is a device for applying a mixture of oxygen and carbon dioxide to the patient in the ratio of five per cent carbon dioxide and ninety-five per cent of oxygen.

In some cases the efforts of firemen in this field of work are not appreciated. Physicians in a mid-western community appealed to city officials to prevent firemen from leaving the actual domain of fighting fires to revive persons overcome at places other than fires, and to do work such as described in the previous incidents.

A fireman is peculiarly fitted for saving life. He is trained to work under conditions of great nervous strain; he knows how to follow out orders, and he is physically able to stand the long, tiresome stretches in reviving persons requiring first aid treatment. The fireman is not a searcher for personal glory. Therefore what he does is not measured by the standard of how much self-advertising will result, but rather by the measuring stick of how much good will result.

A fire station is the ideal place in which to place the necessary first-aid equipment. The building is open at all hours and every day in the week. There are always men there who are trained in such work and who know just what to do in emergencies.

Arguments have been offered that this equipment should preferably be placed in hospitals as saving life is really a medical function. Part of the statement is true—the medical profession is engaged solely in saving life and in alleviating suffering.

In many cities, hospitals are located so as to avoid city and traffic noises, and where land is cheap. As a result, such buildings are not nearly as accesible as are the fire houses. An ambulance is manned by a recent graduate who is termed "ambulance surgeon" and by the ambulance driver. As a contrast, where inhalator apparatus is delivered by a fire company, it is accompanied by a rescue company or by a group of firemen who have received the necessary training.

The value of having more than one inhalator is best illustrated by an incident that took place at Santa Monica, Cal., which, by the way, believes the department has a just claim for national inhalator honors.

In one afternoon four lives were saved. Four members of the department rushed to a little bungalow in an outlying section where they found a young mother lying unconscious on the floor of the living room, and beside her, her face a purplish black, was her three-year-old daughter. The child responded instantly to treatment, but the mother was a more stubborn case. Both were almost asphyxiated from a faulty gas heater. Another call came in from a local hospital where twins were born. A second inhalator was sent from headquarters with some of the men who responded to the first call. After three hours' work in the home and one hour in the hos-

Chicago Firemen Keep Baby Alive for Twelve Days

Firemen were called to a Chicago hospital to revive an infant who had had a relapse following two blood transfusions. The fight was successful.

pital, the department reported that all four patients were saved.

This made the fifty-fifth successful call since inhalators were installed in the department. In all, 144 calls were made, of which twenty-eight did not require the use of the inhalator, and sixty-one were futile at the outset.

From these incidents the layman can realize that the fire department does not only save lives in case of fire, but that it serves as a first aid unit in ordinary emergency cases, and as a standby unit for hospitals.

A community should feel proud of Dr. Fire-Fighter.

Not Covered by the Regulations

What Firemen do When not Fighting Fires or Performing Some Departmental Duty — Cooperate in Charitable City Work

THE day had been warm. No one denied that. The dogs that delighted in chasing cats up alleys were content to relax in the shade, happy to be motionless.

Evening brought little relief. Inside the station there was that heavy, warm, lifeless air, pungent with the odor of gasoline and metal polish. No wonder then there was a crew of firemen in front of the station, seated in chairs tilted back against the building. They were out to catch whatever air was stirring.

Groups passed by and looked at the coatless firemen.

"That's the life, George. No fires to fight, no work to do, nothing but waiting."

But before the couple passed by the men heard the friend reply:

"Yeh, there ain't no fun in that. Yer got to have something to do—"

How true. One must have something to do to while the hours away, although some companies have very few moments to idle. But the popular conception that the firemen's life is an easy one has been in vogue for some time.

Several years ago the mayors of both New York and Indianapolis believed that firemen were living the proverbial life of Riley. The Indianapolis mayor stated that since firemen were on duty but twelve hours a day, the beds should be removed and the rooms turned into community centers. In New York, the mayor stated that firemen had too much time on their hands and that the beds should be removed.

This Is But One of the Many Things Firemen Do in Spare Moments
With the cooperation of a local paint company, firemen in Richmond, Ind., rebuilt and repainted toys that were salvaged from local homes, so that needy children would be remembered at Christmas time.

But beds are such silly things to wrangle about. Consider the church!

"Sure, an' the captain of my station told me I hadn't been to choich for ten years and he'd see that I got there," was the explanation given by a Vancouver, B. C., fireman concerning the revival of an old city law. Firemen were ordered to be present at all gatherings where one thousand persons were assembled, and some interpreted it as compulsory church law.

Sometimes the fire department is about as uneventful a place as one could find. During a period when there were no fires, members of the volunteer department at Freeport, L. I., manufactured their own fires. Many hay stacks were set on fire. Recently a group of volunteer firemen in Glen Cove, L. I., were arrested for doing the same thing, only they were more ambitious—they set fire to buildings and summer residences. Although such a pastime is full of thrills, it is not listed on the approved recreation list for fire-fighters, for the risk is considered too great.

Either trouble or some good may result when men have time to think. During the interval between fires, two firemen at Danville, Ill., had time to meditate, and they conceived the idea of leaving the fire service to go into business for themselves. But they were not content to sell fire insurance, fire extinguishers or real estate.

They installed concrete tanks and established an aquarium to grow bait for fishermen who are too lazy to seine their own. The minnow farm owners graded the bait according to size and the particular fancy of the fish.

To supply excitement during the off-hours at the station, firemen made a joint purchase of a baby wildcat in Phoenix, Ariz. At that time, the tiny cat could scarcely keep its eyes open. But it grew and developed into a real fire department mascot. However, it forgot itself and commenced eating regular fire department food, and died as a result. Members of the station then looked around for other forms of amusement.

Members of the building trade in New York City, told firemen to "mind their own business." Of course, it was not put as bluntly as that, but the union painters threatened to appeal to city officials if firemen persisted in stepping out of their chosen field. The trouble started when some company officers decided to make their quarters a duplicate of Spotless Town. The paint was provided from the House Fund to which the members contributed, and the men were only too pleased to have something to do all the time.

The union painters argued that the uniformed force should not do painting, carpentry or masonry work, for once the idea took hold, it might be followed in the several hundred fire houses of the city. It was a far better plan to have the men polish the brass sliding pole, or the nickel trim on the fire apparatus.

Even city officials have a poor conception of the firemen's time and abilities.

One evening a fire company in a town near Washington, D. C., was called to a rather serious fire. When the men arrived, several fire hydrants were found to be out of order. The next day the city fathers gathered to settle such an unusual problem. After much deliberation it was ordered that the fire chief was to inspect every fire hydrant two hours before a fire.

Several years ago, thanks to the firemen, there was an epidemic of pineapples. Residents knew that something was wrong with the lads of the city but for want of a better name, the boys called the craze "pineapple clips."

The entire incident started because firemen wished to make the youngsters more comfortable during the scorching summer days. Firemen turned barbers. When the boys swam around in the city pool and demonstrated how much better it was without hair getting into one's eyes, the "pineapple clip," became popular. The service supplied at various stations was not speedy enough for some children, and so with the aid of shears and clippers found in homes, they helped to spread the fad started by firemen.

In one fire house in Sacramento, Cal., firemen used their spare time to study music. Each day they spent several hours in the recreation room practicing. None of the neighbors officially complained, although it is generally admitted that the temptation existed several times.

Radio has been a blessing for many firemen. Mongrel sets of every description have been constructed while waiting for the gong to sound.

And if there is a baby in the house, the proud father-fireman may construct anything from a crib to a high-chair in his spare time.

There are times when real recreation is considered. Perhaps about the most popular game at a fire house is horseshoe pitching. All that is required are two rods driven into the ground, and a supply of old horseshoes. If the apparatus floor seems deserted, and one hears a metallic ring from the rear, it is almost certain the men are at an exciting game of horseshoes, or "barnyard golf."

Just prior to Thanksgiving Day, the men are the busiest. At that time, thought is given to the approaching Christmas holiday and to the children living in the poorer sections of the city.

The procedure followed in many cities is for the various welfare organizations to collect old, discarded or broken toys and to redistribute the toys to the various city fire houses. Paint and the necessary material are often donated by local merchants.

During spare momens, a doll's bed is given a fresh coat of white paint, a bicycle repaired so that the wheels will turn, and faded objects brightened so that they will again gladden some child at Christmas time. As a rule, firemen are mechanically inclined and it is not at all difficult to transform what is considered to be a pile of junk into much cherished playthings. It is really difficult to believe that the men can find time to reconstruct so many things. But they do, and they are pleased to assist in so worthy a cause.

And in some places, not content with just repairing things, the firemen arrange to have a real old-fashioned Yuletide party for the children. The apparatus is parked on the street and the station scrubbed until every trace of oil and grease are removed. A tree, as large as the station will house, is erected in the center of the apparatus floor, and from the many branches are hung peppermint sticks and goodies.

Santa, very much inflated with pillows and very uncomfortable, stands waiting on the floor above with the sack of toys. At a pre-arranged signal, down comes jolly Old Nick via the brass sliding pole. And then there are shouts of laughter. Who ever heard of Santa Claus using anything but the accepted chimney? But funny things have been known to happen in fire houses so that children will be made happy. For example, firefighters have been known to sing, and play with the children, and pass out oranges and candy and toys, so that the youngsters would have something to remember.

Firemen find many things to do, besides of course studying for promotional examinations.

Theirs is not a life of just wishing and waiting and hoping.

FIRE HEADQUARTERS ERECTED WITHOUT SPECIAL BOND ISSUE

Detroit Headquarters Embodies Latest Features in Department Design—Contains Auditorium, Offices and Medical Section

By WILLIAM JEROME DALY

WHAT is believed to be the latest in fire headquarters buildings has just been completed in Detroit, Mich. The structure did not require any appropriation of the taxpayers' money, as it was financed by the sale of the department properties. This was the only plan by which the Common Council would authorize the construction of the building.

The opening of the new fire headquarters was marked by the first session of the annual convention of Police and Fire Surgeons and Medical Directors of Civil Service Commissions. The building stands on the site of the old fire headquarters at Wayne and Larned streets, on a plot 120x120 and is five stories high. The building costs $475,000, and adjoining property necessary to complete the site costs $130,000, making the total cost $605,000.

New Fire Department Headquarters Completed in Detroit

For years the Board of Fire Commissioners had tried to get new headquarters. The old one was a fire-trap, an unsanitary structure and a relic of volunteer days that rarely exists in a cosmopolitan and growing city such as Detroit. It is to the business-like talents of Charles F. Clippert, member of the fire commission in charge of department buildings that all credit should go for the achievement. He disposed of some antiquated fire house sites and buildings and thereby acquired $670,000. In some instances single companies were doubled up, leaving a house and site to be sold.

Beginning at the bottom, the new fire headquarters has a basement garage accommodating thirty-five cars, but only twenty-two without utilizing other than wall spaces. This feature keeps all motors off the highways around the new building. The heating plant has steam supplied by the Edison Company. On

(*Continued on page* 926)

The Menace of the Sliding Pole

What the Detroit Fire Department Has Learned Regarding Injuries from the Use of This Device

By DR. CARL H. SCHULTE, of the Detroit Fire Department Medical Bureau

THE very interesting and instructive article which follows, and the illustrations which accompany it, are taken from the September issue of the "Slate," published by the Detroit Mich.. Firemen's Fund Association:

Outline

(1)—Firepoles as they are today in use throughout the United States are no doubt the agents of choice in transporting men from floor to floor with the greatest possible speed. However, the price paid for this speed is in many instances reckoned in seriously disabling accidents.

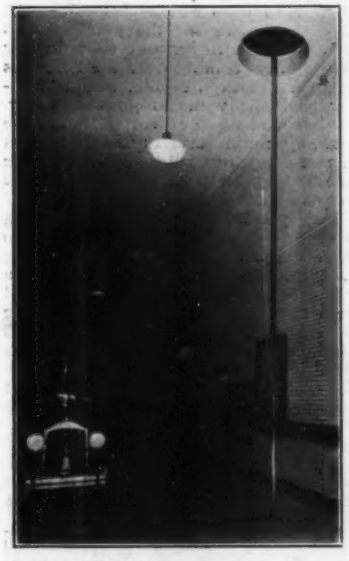


Fig. 1

Typical firepole. Observe its extreme length, 28½ ft. from dormitory to apparatus floor. A fall on a pole of this length would unquestionably result in a serious accident.

(2)—The records of the Detroit Department show that since 1922 there have been forty-eight of these accidents disabling the men a grand total of 1,783 days. In addition it has caused the death of three men, the retirement of one and the permanent disability of three.

(3)—The cause of these accidents we believe to be the peculiar circumstance of the fireman's occupation, the condition of the pole's use and the possible changing character of the pole itself under various conditions of use. In the majority of cases we do not believe it to be due to the carelessness of the fireman.

(4)—The changing character of the pole itself, i. e., the so-called fast pole and slow pole, must always be kept in mind as an additional possible cause of a major accident.

(5)—Accessories to the pole such as covers and mats are in many instances causes of injuries. Some houses have discarded as many of them as safety permits in order to minimize the hazard.

(6)—The element of chance must also be considered as an additional cause. Pole sliding is a relatively hazardous occupation and a proportionate number of accidents must be therefore expected from this cause alone.

(7)—The two techniques used in sliding very often determine the type of injury suffered. Loss of control while employing the arm technique is liable to injure the femur or os calcis. Loss of control while employing the leg technique very often results in a sprain or fracture of the bones of the foot or an injury to the malleolus.

(8)—The effect of these accidents is felt by three distinct divisions of the force, the fireman, his company and the city. The fireman and his company in loss of time, the city in loss of money and service.

(9)—The next step in the solution of the problem is the impartial investigation of whatever agent could be substituted for the firepole. Granting that the blame for the majority of these accidents rests on the pole itself, investigation of these agents is justified.

I.—Introduction

We will here attempt to briefly outline this so-called firepole menace as we see it, with an additional resumé of the experience of the Detroit Department.

In this discussion no attempt will be made to compare any of these existing substitutes of the pole itself, one with the other, or any of these substitutes with the present type of pole. Our purpose here will be rather to present essentially nothing more than a simple narrative of the unfavorable conditions presented by the pole as we know it realizing full well that we thereby align ourselves on but one side of the discussion. It would be stupid of us to fail to recognize the fact that there are factors in the pole's favor which must be considered in spite of the somewhat unfavorable report we will be able to present in this writing.

Present Day Poles Are Hazardous at Best

It is more than true that firepoles transport a company of men from floor to floor in as short a time as any now known method, possibly a bit quicker than the best of any of these other methods. But it is equally true that as long as these poles are to be used in engine houses in the manner in which they are used at the present time, serious accidents to the men who slide them are bound to happen. Fire Commissioners, Department Surgeons and Physicians and the men themselves have ever recognized this fact and for this very reason have always had an open mind on the consideration of any better method of getting the men from the dormitory to the apparatus floor with dispatch. Apparently, however, the past investigations of these substitutes have so far not convinced these gentlemen of the wisdom of their adoption so that the pole has remained in its present state and has come to be more or less regarded as one of the necessary evils in fire houses.

The Record of the Detroit Department

We doubt very much, however, if the full significance of the damage done by these poles has ever come to the direct attention of Commissioners throughout the United States and Canada. While Fire Commissioners everywhere recognize the pole to be an evil and Department Surgeons of all cities are being constantly confronted with a continuous train of major and minor accidents caused by it we possibly have not had the opportunity of sitting down with pencil and paper and figuring up the cost in time and dollars of every accident which so happens. For our purpose then we have here investigated the record of the Detroit Department since 1922 and have found that this record more than justifies a serious consideration of all the facts involved. The experience of the Detroit Department can well be accepted as representive of any of the larger cities of the coun-

Fig. 2

Typical arm hold braking in this case with the right arm.

try and we will doubtless find that the experience of these other cities is similar if not identical to ours.

Totaling from the charts we have at hand, both of major and minor casualties, we find that since 1922 our Department has suffered forty-eight pole accidents here disabling the men a grand total of 1,783 days. Of these three died as a direct result of their fall, one of them was subsequently retired on pension because of it and three have been permanently, though not totally, disabled.

(We have reason to believe that this record is by no means complete. There have been a number of minor accidents

Fig. 3

Typical leg hold braking in this case with the thighs and knees.

which have not been reported, some of them even disabling the men a number of days).

II.—The Cause of the Accident

Fireman Himself In No Way To Blame

It might strike the casual reader, especially the casual layman, that in this case the fireman himself must be to a marked degree wholly responsible for this relatively large number of pole accidents and in the face of the figures just given somewhat careless in the manner in which he slides the pole. This thought is mentioned here for the direct purpose of contradicting it for we firmly believe nothing is farther from the truth. The fireman himself is in no way to blame for this large total of injuries nor for the large number of days of disability. It is further determined that his technique is not necessarily at fault nor is he careless in the occurrence of the accident.

No fireman, even though he may have the reputation of being a malingerer in other instances, will chance being one here. No fireman has a pole accident because he wants one. Even the man who is a habitual malingerer will take any other means than this one of allowing his carelessness to risk his limb. It is further true that no man will attempt a pole slide until he knows how it should be done and can do it to his own satisfaction. The primitive law of self-preservation in this particular instance is an ever present instinct even to the prevention of a minor accident on the pole. Consequently we believe no education of the fireman is indicated except the preliminary education he receives from his superiors as a trial man and the every day practice he gets in the firehouse thereafter.

Firemen, Invariably, Are Employing The Proper Technique

Our investigations have shown, and we will outline these investigations later, that the majority of accidents occur when the fireman is sliding the pole in the proper manner, that is using the proper technique which he has been taught and the technique which has brought him down that same pole in safety on hundreds of previous occasions. This technique might have its variations with certain individuals but even these variations have proven themselves at least to the fireman's satisfaction. Whatever these variations may be it has been found that the greater majority of the men are employing one of two universally used methods in all of their slides, viz., the arm method in which the speed control is regulated by arm pressure or the leg method where the speed is regulated by leg pressure. I will describe both of these methods without including any possible variation:

Sliding the pole by the arm method simply means embracing the pole with the hand over the opposite elbow and with the arm and forearm serving as the brake. Sliding by the leg method means that one leg is wrapped around the pole in front and the other in back and that the braking is done with the thighs and legs so embracing the pole. Either method is entirely correct and either method will bring him safely down. However, it is by all means possible to fail to brake with either method properly executed and this failure to brake is in the majority of cases the direct cause of the man's accident. Now this simple description of the manner in which the pole is usually used may not be sufficiently clear to impress one with the actual reason why the man's control of his speed is lost or why he fails to brake himself in his descent.

The Accident May Occur With The Technique Properly Executed

There are various reasons which may be advanced for this failure, all of them due to the various conditions of the fireman's occupation, the circumstances of the pole's use and even the physical condition of the pole itself. For example, a sudden night alarm brings a company of men from their bed in an instant. All of them have but a single instinct. In a semi-daze of waking they make for the pole with all speed. Their minds are occupied with but one thought, the interpretation of the alarm as it is coming over the bell. As a consequence the fireman embraces the pole, swings himself down and makes his descent with no possible delay. In a number of cases if he is using the arm technique he will find that his arm is asleep, numb, useless to him at that moment, and before he has a chance to adjust himself to the other method he has struck the ground with full force, in all probability inflicting a serious fracture.

The same conditions may prevail if he is using the leg technique; his leg he may find is asleep, numb, useless to him at that precise moment as a means of braking his descent to the ground. A fireman who is wakened from a sound sleep has neither the time nor the mind to stop and shake his members to see if they are useful to him or not. He discovers this when he is on the pole and then of course it is too late. Many a serious accident has happened from this cause alone and this indeed is in no manner the fault of the fireman. It is entirely the fault of the condition under which he has to work, as mentioned above—the condition of the man's occupation.

The Fast Pole and the Slow Pole

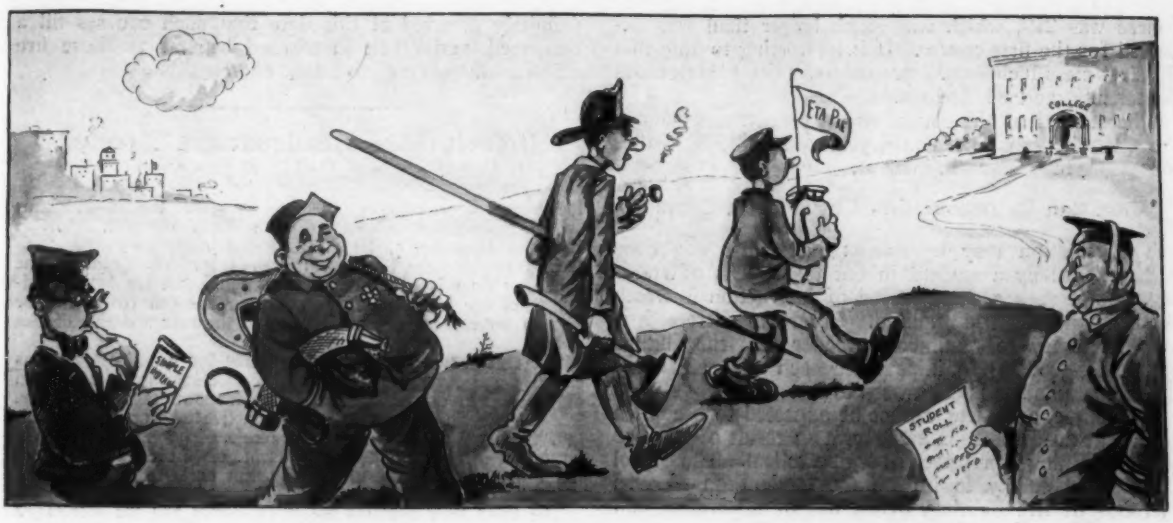
Then there exists a circumstance which we will have to describe as the fast pole and the slow pole. A fast pole is

Fig. 4

Typical pole mat. Mats of this type are prime causes of ankle and knee sprains.

a slippery pole, one which requires an extra pressure of the arm or leg to effect a safe landing. A slow pole is a harsh pole, one that is not slippery, one which requires but a slight pressure of the arm or leg to effect a safe landing. Peculiarly a pole which may be a slow one in the early hours of the morning may be a fast one after the men in the house have used it a number of times. This changing condition of

(*Continued on page* 963)



The Fireman Goes to College

Intensive Courses Designed to Benefit Members of the Smaller City Fire Departments—Courses in Many Universities

"I DON'T want no book firemen in my department!" Thus a prominent fire chief twenty-five years ago expressed himself upon the subject of a fire department school wherein it was proposed to give lectures on various topics to firemen.

But times have changed. Modern fire department officers appreciate that more intelligent work can be done in fire extinguishment by intelligent men, and that the modern fireman, to be fully efficient in his work, must understand many subjects which two decades ago would have been considered topics for study by college students only.

Chief John Kenlon of New York was one of the first to recognize this and the establishment of the New York Fire College resulted. That it has been copied by many cities throughout the country is sufficient evidence that the principle of training men mentally as well as physically is a sound one and is of benefit to the department and the city which it serves.

Problem of Educating the Small Town Fireman

But the great majority of cities and towns have neither the facilities nor the finance to maintain fire colleges, nor have they available properly qualified talent to conduct lecture courses in such establishments, should they otherwise be feasible.

To give members of fire departments, located in other than the larger cities, advantages of "higher education" was a problem which was early recognized and which has been given considerable thought during the past few years. The first solution, which proved successful in a measure, was the sending of one or two members of a fire department to the fire college in a large city to take the course given therein. These delegates, upon returning to their own city, transmitted as much of the course as their memory and local facilities permitted, to the members of the local departments. Many of the smaller city fire department training schools resulted from this move.

But there are many cities throughout the country which are too far away from the larger cities enjoying fire department schools to take advantage of this particular method. Something better had to be discovered.

The result was the institution of the Fire Short Course.

Success of the Fire Short Course Idea.

The short course idea had proven successful in many other lines than fire fighting prior to its adoption by the fire field. Short courses for teachers, for engineers, chemists and other professional men had been in vogue many years at the time of the extension of short course to include firemen.

To Illinois and to Fire Marshal John G. Gamber of that state, probably belongs the credit for instituting the first fire short course.

This short course in "Fire Prevention, Control and Extinguishment," given at the University of Illinois, June 16 to 19, 1925, was the first of its kind ever given in the United States.

The idea of utilizing the resources of the state university for short or practical instruction for fire chiefs, firemen and others interested in the subject, had its origin in an address by State Fire Marshal John G. Gamber, before the Illinois Firemen's Association at the convention in Rockford in 1922. The idea was nursed along until 1925, when, at the Murphysboro convention of the Association, a resolution was adopted, calling upon officers of the Association to take the matter up definitely. The proposition was taken up with President David Kinley and met with spontaneous approval. By his direction M. S. Ketchum, Dean of the College of Engineering, appointed a committee to report on the feasibility of giving the course and submit an outline. This committee developed the course, with Professor C. E. Palmer as director.

Sponsorship of the Course

The course was given under joint sponsorship of the University, the State Fire Marshal and the Illinois Firemen's Association. The total registration for the

course was 219, which was much larger than was expected for the first course. It is interesting to note that the first class included 59 fire chiefs, 8 fire captains and lieutenants, and 84 firemen.

The success of the course was assured the first day. As a result, it has been held yearly since 1925, and is increasing in size and in interest.

What Can Be Accomplished by a Short Course?

The question may be asked: just what might be accomplished by a student in but two weeks of training, and if such a short period of instruction is worth the time and expense required. In answer thereto, it is only necessary to remind the reader that the Illinois course is growing in importance each year and very definite results have been traced to it.

Of course, a student cannot be expected to become a proficient fire protection engineer as a result of the two weeks' training he receives at such a school. The school is intended chiefly to inform the student on modern methods of fire fighting, drills, use of apparatus, and other allied topics. With regard to drills, and use of equipment, the student really learns by doing, as each student is required to actually participate in the drills and evolutions.

By bringing instructors from the larger cities, those attending the course are given the opportunity of learning first hand the most effective means of combating fire, of using apparatus and equipment, and of preventing fire. If the short course can effectively accomplish these three objectives, it is doing a tremendous service to the fire fighting field.

The Fire Service Extension Committee

As a result of close observation of the results of the Illinois short course, the National Fire Waste Council, affiliated with the Insurance Department of the United States Chamber of Commerce, organized a fire service extension committee early last year, with G. H. Parker, Engineer of the Kentucky Actuarial Bureau, as Chairman.

The object of this committee is to extend the short course idea throughout the country.

Where Successful Short Courses Have Been Held

During the past year a number of very successful fire colleges were held, including those in Nebraska, Iowa, Kansas, Illinois, Wisconsin, Wyoming, Michigan, Minnesota, Oklahoma, Kentucky and North Carolina. In addition to these states, state fire service extension committees have been, or are being organized in Washington, Ohio, Indiana, Missouri, Arkansas, Texas, Tennessee, Louisiana, and all of the southeastern states. In November the Fire Service Extension Committee will hold a meeting at which it is hoped to have one representative from each state where a fire college has been held. It is planned to have this meeting last about four days, and with the aid of men who have actually conducted fire colleges, it is hoped that shortcomings of past schools will be pointed and procedure established for future short courses. In each instance where a short course has been conducted it has been held under the auspices of the state university.

This has proven an ideal arrangement, for with the engineering facilities of the various universities, and the qualified personnel available, short courses have been conducted in a very commendable manner.

While it is yet too early to confidently predict the future of the fire college, or short course, it can be definitely asserted at this date that such courses fill a real need, and result in marked benefits to those fire officers who are able to attend them.

Detroit Fire Headquarters Erected

(*Continued from page 922*)

the ground floor, running out of two sides of the building are: Engine 1, Ladder 1, High Pressure 1, Water Tower 1, Assistant Chief of Department, Deputy Chief of Department, Chief of Department and the Department ambulance. The ceiling of the apparatus floor is twenty-three feet high, consequently the sliding poles are longer than that. The recreation room and the kitchen are commodious and located to the rear and side of this floor.

The second floor dormitory has thirty-five beds in it, but has capacity for seventy beds without crowding. Each officer on duty for each unit of apparatus has his own office and room. The wash-room contains five showers, five tubs and other sanitary facilities—all done in white marble. The wash-room is so large that there is a twelve-inch alarm gong in it. The assistant chief of department and the division chief each have their separate quarters.

The third floor contains the chief clerk's and the secretary's offices, the general administration offices, the Board of Commissioners' room, the office and bedroom of Chief of Department Stephan J. De May, and the office of the assistant chiefs—all finished and panelled in walnut, the upholstery being fire-red leather and the rugs suitable for capitalists.

The fourth floor contains the office of the Fire Marshal, the Arson Squad, the Fire Prevention Bureau, the Medical Bureau and the photographic developing studio. The space alloted to each activity of the department appears adequate for the next fifty years. This floor also contains complete sprinkler and refrigeration plants with which demonstrations or tests are given periodically. The entire building has sprinklers. The medical bureau contains eight rooms where a trained nurse is on duty. There are three beds, X-ray apparatus, baking machines and other necessary equipment for a modern clinic.

The top floor has two auditoriums. The large assembly hall has capacity for 750 persons and is equipped with a stage and with scenic and lighting effects—the latter costing $10,000 alone. The electrical illumination is by inverted domes with subdued glow, when the bright lights are switched off for motion pictures. Another but smaller assembly room has capacity for 150. This may be used for either a coat room or for serving refreshments or meals. The motion picture projection booth complies with all the requirements of law and has capacity for two reels simultaneously.

The arched doorways out of which the apparatus responds are decorated in the granite with chiseled symbols of other days in the Fire Department of Detroit. A fire chief's head, neck and shoulders stand out in bold relief. The figure wears a fire hat and has a moustache. It is the image of Chief De May himself, but he blushingly denies this. The hat front worn by the late James Battle, first chief of the Detroit department, is another ornamentation carved into the granite on the facade of the building. Eagles, typical of the top of a fire hat, belts and kindred insignia make up the balance. The two elevators in the building are automatically operated—one of them being large enough to carry a stretcher case to the Medical office.

The entire plant, its maintenance, appointments and housekeeping conditions are under the personal supervision of Battalion Chief William Burgess, in charge of department buildings and supplies. Chief Burgess "slept" with the job to have the formal opening in time for the Police and Fire Surgeons as the first inspection party.

Huron, S. D., to Buy Pumper—Huron, S. D., has received bids for a 750-gallon pumper.

Council Bluffs, Ia., May Have Fire Alarm — Council Bluffs, Ia., may install a new Gamewell fire alarm system.

Madrid, Ia., Votes to Buy Pumper—Madrid, Ia., has voted to purchase the 500-gallon pumper recently demonstrated there. The pumper was purchased for $5,750, and is equipped with a 150-gallon booster tank.

Tacoma, Wash., Tests Fireboat—The "Electric City," new fireboat for Tacoma, Wash., was given her final power tests. It has seven monitors and fourteen hose connections. There are four engines to operate the pumps and the craft can throw 10,000 gallons a minute. Engineers say that the boat can make a speed of seventeen knots. It was built by the Coast Line Shipbuilding Company.

Confession of a Fire Fan

One of Those Thousands Who Cannot Resist the Call of an Alarm and the Lure of Smoke, Tries to Explain but not to Apologize

By KARL W. DETZER

Illustrations by "Art" Espey

THE two officers on traffic duty cleared the way for the hook and ladder truck as it rolled out of the cross street and into the avenue. On the right hand running-board of the great, swaying apparatus, a small, meek eyed, old gentleman with nose glasses on a black cord and a Van Dyke beard was pawing into an official slicker. On his head he wore a leather fire hat several sizes too large.

"Pipe the fireman!" the recruit traffic officer pointed to the beard.

"That ain't a fireman," the veteran corrected, and blew his whistle. Cars poured into the lane through which the truck had run screaming. "He's a nut. A volunteer. Civilians ain't allowed to ride on the apparatus, so he's got himself appointed."

A salvage squad announced itself with a shriek. The officer opened the way and it racketted after the truck.

"That guy you saw is one of them honorary assistant marshals," the officer said. "There's about a thousand of 'em. Don't get any pay, and some night when a wall falls on him, his widder won't get no pension. Just a nut."

Perhaps the police officer is right. The meek old gentleman may be a nut. But the fire department, at least, is too polite to call him that. In New York the boys dub him and his kind "Buffs"; in Chicago, "Fans"; in Boston, "Sparks."

Who are they? Just a band of romantic adventurers who steal away from prosaic jobs to revel for a few hours in the glamorous uncertainty of battle: Architects, surgeons, stock brokers, lawyers, salesmen, laborers, teachers, priests. . . .

It is difficult for a man to enumerate his reasons for being a fire fan to skeptical, sober-minded friends. They persist in looking on him as slightly demented and a bad, bad insurance risk. Wives are particularly obtuse. One of the hardest jobs a fan undertakes is to explain to his wife why it was necessary for him to frost his fingers and to return home six hours late with two inches of ice on his best overcoat.

She tells him that it wasn't *his* fire. The building belonged to Smith, who is rich—at least rich enough to own two overcoats. There were men paid to put out the fire. And besides, it was a waste of time! One might have been at home sweeping up the furnace room.

There are other reproaches, of course. And it *is* hard to get the overcoat clean. In fact, it never looks quite the same again. Spots of rusty water that have washed down the dirt of ages from between the rafters before dripping on a crazy man's back, aren't the easiest stains in the world to remove from wool fabric.

Other scoffers, not one's wife, contend that the fan is a pyromaniac. Firemen know better. For the engine house boys look upon the fan as their best friend, just as they view the fire bug as their worst enemy.

For sake of argument let us admit that both the bug and the fan are eccentrics. But the bug likes to start fire. The fan likes to stop it. They are at opposite poles.

Of course there is something primitive in the fire fan. He thrives on the roar of battle, the great odds, the robustious heroism of firemen, the shrewd tactics of hose companies, the generalship of departmental chiefs. He loves to be an actor in a mighty fight, to stand shoulder to rubber-covered shoulder with howling pipemen, to take his dose of smoke with a daring rescue crew, to accept the challenge of flame and to battle it to the death. Next day, and the day after, he may drudge at a humdrum desk.

When a hundred thousand sane and normal citizens sit in the rain cheering the muddy efforts of twenty-two men with an inflated ball, when a hundred thousand others crowd a wooden arena to watch a pair of financiers exchange punches and go into clinches, and another hundred thousand grow incoherent begging a fat athlete to hit the old pill on the nose . . . that's sport. But when another group of citizens goes in for a game that

makes football look like ping-pong, a game that takes every fiber of nerve, every ounce of strength, a game that requires the shrewdest strategy and the staunchest heart, a game in which the stakes are millions of dollars and hundreds of lives . . . that's eccentricity.

Well, the fire fan is willing to be listed among the eccentrics, as long as you let him sit around the engine house awaiting the call to duty, as long as you let him keep his helmet and badge and roll out to battle with the boys.

The critical, workaday public forgets that there were fans before there were departments. No doubt while Nero fiddled there was a stout company of Roman volunteers in dripping tokas, standing up to their waists in the Tiber, filling buckets for the imperial fire brigade. Pliny mentions the fans of ancient Rome. Apollodorus, architect to the Emperor Trajan, describes the Buffs of another day running with implements that resembled bagpipes, each full of water. Hero of Alexandria refers to "the siphons in conflagrations," and the hearty volunteers who manned them. It was a body of fans under General Phil Sheridan who finally ended the Chicago fire more than half a century ago.

New York's Buffs are the lineal descendants of those hearty burghers who rolled themselves in buffalo robes and slept over the engine house on winter nights in order to be on hand for emergencies. These elder volunteers were facetiously called "buffaloes" by other burghers, who considered nine pins better sport, and the contraction of the name clings to this day.

In many middle-sized cities in the East, particularly throughout Pennsylvania, volunteers are still the mainstay of the departments. At Harrisburg, capital of the State, a city of eighty-five thousand, property is efficiently protected by three thousand volunteers. The chief of department and his assistant are paid members. Each of the sixteen engine and truck companies has a paid driver, on duty twenty-four hours a day. But the other three thousand members are fans. The Mayor of the city is a lowly hoseman, once the bell rings. Bank presidents shin up ladders. Not only are they volunteers, but they pay for the privilege of fighting fire. It costs each man a dollar a year to belong. And if he's absent from a fire he pays a fine of ten cents.

There are few absentees.

When Big Bill Thompson, king-baiting Mayor of Chicago, was searching for a fire commissioner who, like Cæsar's wife, would be above reproach, he picked a fire fan for the job, a man of such integrity that even the opposition newspapers hadn't the heart to criticize.

This was Albert W. Goodrich, financier and director of the Goodrich steamship lines. For many years he had been a fan . . . a simple, hearty, hose-lugging fan. He was one of the organizers of the Fire Fans' Club. He not only gave freely of money for departmental activities, but he put on helmet and boots and went out on the job with the rest of the boys whenever there was a tough fire to fight.

It was largely through his efforts, long before he was commissioner, that Chicago responded wholeheartedly to the observation of fire prevention week. He organized business men, he advised department heads, he sponsored prevention demonstrations. Firemen love him.

"Say . . ." they exclaim, "that guy's got a heart. He's our friend. He ain't a politician . . . he's a fire fan."

Boston Sparks Are Organized

The Sparks of Boston are organized into several associations. One of these, the Box 52 Club, has fifty-two members, and in addition to hopping the tailboard and rolling to duty whenever there is an opportunity they meet formally once a month. The club has been in existence seventeen years and for twelve years has been a regularly incorporated institution. Every member has a department badge.

A member of this club, writing to a fan in a city half across the continent, explains its methods in part as follows:

"We Sparks are fortunate in hearing of multiple-alarm fires at all times of the day or night. We have contracted with a private watchman service that has an alarm tapper in its office. Each of us is notified of every second alarm fire. I average 180-200 runs a year and can reach the high value district in ten minutes by taxicab."

A hundred and eighty a year! Lucky dog.

In many cities it is the fans who operate the coffee wagons that trundle out to night alarms (why wouldn't the half-frozen men in the rubber coats love them?) In others the department ambulances are the gift of admiring, envious citizens, and the white-jacketted doctors aboard them, often as not, are receiving no pay for their services. In New York there are honorary department surgeons who keep up their own speed-cars, equipped with sirens and fire-engine bells, and who install alarm recorders beside their beds in order to bunk out with the same alacrity as hose company recruits.

Addiction to fire fighting is difficult to break. Smoke, like hard liquor, gets into a man's blood. How many times have you heard the habitual fire fan swear he's through . . . usually after an engine turns over or a wall falls on a group of his mates? For a week he stays away determinedly from engine houses. In a spirit of martyrdom he throws out the alarm bell that has awakened him to joyous battle many a zero night. He mournfully puts off his helmet and boots. Say what you want, he's through. He has the family to remember . . . what if that wall hadn't missed him? And at his age, one must consider one's heart!

(Continued on page 960)

New York Fire Department Honors Dead Comrades

Chief John Kenlon and other members of the New York Fire Department participated in the annual memorial services. Spectators watched the 1,200 firemen march to the firemen's memorial where a wreath was placed to honor the dead fire-fighters. Chief Kenlon is shown holding the wreath, and Thomas F. Dougherty, assistant chief of department, is at the extreme right.

Who Should Test the Fire Engine?

It's Time That Fire Departments Should Do Their Own Testing—Fully Competent For This Work.

ONE of the tasks of the Bureau of Fire Prevention and Engineering Standards of the National Board of Fire Underwriters, when making an engineering survey of the fire protection facilities, is the testing of fire apparatus in service. Such tests have been necessary, and still are necessary, to determine the capabilities of pumping engines in particular in service in the various fire departments. A pumping engine, after it has been in service for several years, may be found to have a much reduced capacity over that which it possessed when first delievered. This is natural, for the vigorous service to which fire engines are submitted is bound to have its effects. Because the National Board tests all engines in service when making surveys of cities, this organization is usually called upon to test new pieces of motor fire apparatus prior to being placed in service.

Early Tests Were Uncertain

In the early days of the motor fire engine there was considerable uncertainty as to just what the motor pumping engine could give in the way of performance, and the National Board gladly offered its engineering services to assist fire departments in making acceptance tests to determine the capabilities of the apparatus being installed. From the standpoint of the Underwriters, such tests were necessary, for upon the fire protection facilities of a city depends the making of insurance rates. During the first few years of the motor pumper considerable grief was encountered by fire departments through the failure of motor pumping engines to stand up under severe service. And this co-operation of the National Board of Fire Underwriters was welcomed, and in many cases was urgently needed.

Present Day Motor Apparatus Dependable

Motor apparatus as built at the present time is dependable. The large manufacturers of fire apparatus, building their own motors, have reputations which they jealously guard, and they can be depended upon to put out only the finest of apparatus, both from the standpoint of power plant as well as pumping equipment.

The small manufacturer, not having sufficient capital nor business to warrant the building of his own motors, purchases them from commercial truck motor builders. In this latter case the use of proven commercial motors is beneficial to the department putting such apparatus into service. The small manufacturer could not afford to employ high grade automotive engineers, but by using commercial motors of established reputation he can offer his customers machines which can be expected to stand up in a satisfactory manner in the fire department service. Thus both the large and small builders of apparatus are today turning out machines which are reliable from the power end standpoint.

As far as pumping equipment goes, the small manufacturers of motor apparatus confine themselves to ro-

tary pumps, which are now so well understood that errors in design are few and far between. Failures of present day pumping engines, whether manufactured by large or small concerns, are very infrequent occurrences. Rarely are they the result of poor design.

Purposes of Tests

Two types of tests are commonly conducted, namely, the acceptance test, and the annual, or semi-annual test, to determine the condition of the apparatus.

The purpose of the acceptance test is to definitely determine whether or not the engine lives up to its specification.

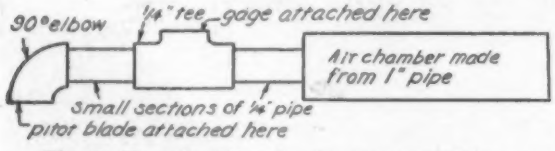


Fig. 2. How the Pitot Can Be Constructed from Plumbing Shop Parts

Each of these tests is conducted in the same manner, and the objects are precisely the same. With old apparatus, however, allowance is made for wear, so that if a pump, after serving several years, does not give its initial rated capacity at specification pressure, it is not necessarily considered defective or unserviceable.

Can Fire Departments Test Their Own Apparatus?

Many fire departments, particularly those in small cities, hesitate to make tests of apparatus, fearing that such work requires the training of an engineer. This is an erroneous impression. The testing of a motor pumper is a comparatively simple problem, once proper instructions are at hand, and are faithfully followed. The only special apparatus that is required to satisfactorily conduct a test includes the following: revolution or speed counter; a stop watch and wrist strap; a small pitot tube; an air chamber on pitot; two or more pressure gauges; a hydrant or engine discharge cap; appliance for attaching counter; for convenience it is also desirable to have a pitot bracket for supporting the pitot tube in proper position to make nozzle pressure readings.

A brief outline of the methods of making various tests are given later in this article. From this outline the reader can secure a good idea of just the work entailed in testing a motor fire engine. Incidentally, the National Board of Fire Underwriters have available a pamphlet entitled "Fire Engine Tests and Fire Stream Tables" which outlines fully the methods of testing fire engines. This little pamphlet also includes, in addition to instructions for making tests, very useful tables on effective reach of fire streams, friction loss in fire hose, discharge from nozzles, nozzle and engine pressure on various layouts, etc.

There is not a motor fire apparatus operator who cannot, with a little instruction, conduct a satisfactory test of his apparatus. Of course, testing the apparatus is one thing and making the computations after the test has been completed is another.

Making Computations

While any member of the department with a good knowledge of arithmetic can make his own computations, some departments might prefer having these calculations made by others than themselves. In such case, the engineers of the National Board of Fire Underwriters, or of rating organizations whose departments conduct fire engine tests, will gladly make the computations if data sheets of tests are submitted to them. Of course, the Underwriters' engineers have not time to compute engine tests results where engine is tested several times during a year. On the other hand, they will gladly check over figures made on acceptance tests of new apparatus, or tests where the results do not seem to be correct and the advice of someone conversant with testing is desired.

For acceptance tests, the National Board will furnish fire departments with data sheets on which the data secured in tests are to be entered. These sheets, after the figures have been entered, may be sent directly to the National Board whose engineers will make the necessary computations and submit a report to the fire department thereafter.

What Tests Include

For acceptance, engines are required to deliver their full rated capacity at 120 pounds average net pressure for 2 hours; 50 per cent of their rated capacity at 200 pounds average net pressure for one half hour; and 33 per cent of their rated capacity at 250 pounds average net pressure for one-half hour. Tests should preferably be made when drafting with about 10 feet of lift, especially if the engine may be required to draft water from a river, canal or cistern when in service.

For a two-hour run, nozzle and engine pressures may be recorded every five minutes, after the engine is brought up to speed, as with any reliable motor the speed and pressure will be nearly uniform. If it is inconvenient to attach a continuous reading counter to the pump the readings may be taken for one minute, during each five minutes interval, using a speed counter. On some makes of pumps it is possible to take the pump speed directly from the end of the pump shaft by removing a foot board or bracket; on other makes, speed may be taken at the engine on the end of the circulating pump shaft, timing shaft, or possibly on the fan drive wheel shaft; if pumping speed is obtained, the engine speed may be computed from the gear ratio. Some makes of pumpers have tachometers attached which can be used for speed reading, but they should be checked by a counter reading.

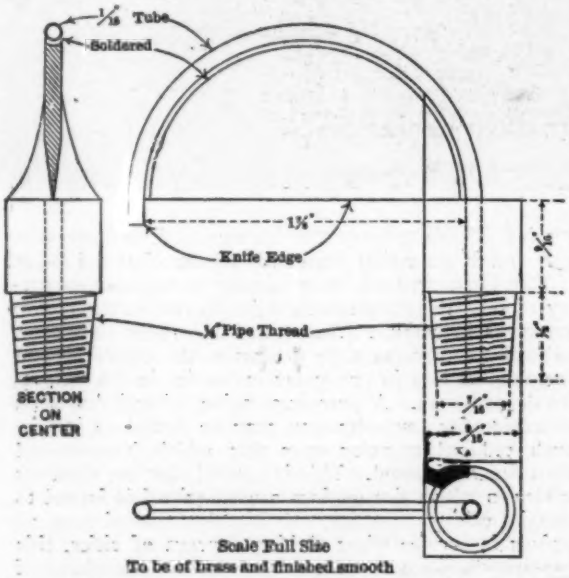


Fig. 1. Construction of Pitot Blade

In selecting a site for the test, the best plan is to try and locate one away from the accessible part of the city.

(*Continued on page 967*)

Ventilation At Small Town Fires

When Only Few Lines of Hose Are Available, Judgment Must be Exercised in Ventilating—Some Examples Cited

By W. W. STEPHEN, Chief Fire Department of Southern Manganese Corporation, Anniston, Ala.

THE practice of ventilation is a standard and necessary procedure in many, if not all, city fire departments. It is, however, often the case that the small town Chief who has learned the value of it meets with a certain amount of difficulty and criticism in carrying it out. In a smaller municipality sometimes a number of city officials and other prominent business men are ex-Chiefs and retired exempt firemen of the volunteer department who were good men in their day but who firmly adhere to that fallacy that "air must never be let into a burning building," also that "pipemen should be men enough to go in and hit the fire" with no attempt to relieve the smoke.

Chief W. W. Stephen

Fortunately, after a few instances of venting burning buildings have occurred in a town the skeptical are generally converted and become advocates of this procedure.

Immediate Venting Was Proper in This Case

The following are cases from the author's experience that are presented merely for the purpose of illustrating some conclusions regarding this subject. The first is a very ordinary and typical one, where immediate venting was the proper thing. The other two, because of the limited amount of apparatus available, were a bit complicated.

Example one—Three adjoining one-story brick buildings with a common loft space under a tin roof were occupied by a pool room, a barber shop and a meat market.

Fire had involved a partitioned area of bath rooms in the middle of the center building and all three structures and the common loft over them were so heavily charged with smoke that it was impossible to enter any one of them or to locate the fire.

Four lines of hose were charged, with controlling nozzles closed, as the officer in charge wanted to locate the fire before attacking it. A warm spot on the tin roof gave the necessary information. A space about ten feet across was ripped open with a roof cutter, the wooden sheathing under it cut away and the hanging ceiling beneath the loft pushed down.

The effect was immediate. The fire burst up out of the involved area but the smoke in the building cleared at once. The pipes of the charged lines were rushed in from front and rear and one taken to the roof. The fire was under control in a few minutes and was finished up with an 1½-inch line.

In this case immediate and complete ventilation was carried out at once.

Part of Building Vented at First

Example Two—Large two-story frame residence with one-story rear wing. Roof on both parts of building was of fire resisting material. Fire had badly involved loft of one-story rear wing, had gone through small wall openings in a bathroom and was involving second floor of main strutcure. Entire building was so heavily charged with smoke that entrance was impossible. The house, when viewed from the outside, was a solid cloud of smoke.

Only two rather weak hydrant streams were available and the situation looked serious.

Second floor was ventilated by opening windows from roof of surrounding porch and both pipes were taken up main stairway, as venting made this possible at once.

Fire on second floor was quickly killed, before it got into the loft over this floor, and all attention was then turned to the loft over the rear one-story wing.

The roof over it was opened along the ridge pole half its length and it became almost instantly possible to advance one of the hose line pipes into the loft through a hole pulled in the bathroom wall. The other line was taken through a rear second floor window to the loft over the fire, which was gotten under control within ten minutes. It will be noted that in this case a part of the building was vented and fire in it controlled befor the other part was opened, as the two hose lines available could not have handled the blaze had air been admitted to both area simultaneously.

Judgment Used in Venting This Fire

Example Three—Two-story mercantile brick building with tin roof, very heavy floors and ceiling of hewn timber, with windows only at ends of building.

Fire on second floor had involved a considerable area

"IN the case of a small town or village department which has only a limited number of fire streams available, the extent to which venting should be done must depend on judgment of the officer in charge."

near middle of this space and entire building was very heavily charged with smoke and half burned gaseous products of wood distillation.

A single hydrant stream was available and goods piled before windows blocked it from reaching fire from either end.

Officer in charge decided that if building were vented the fire would become too hot for the one stream to handle it.

The line was taken to the roof of an adjoining one-story structure and a small hole was picked through the side wall opposite where the center of the fire was estimated to be.

The pipe was thrust through this and the stream operated into the heart of the fire.

After about fifteen minutes it was apparent that considerable effect had been produced and the building was then vented by opening a skylight. The line was taken down to the first floor, brought up an interior stairway and the fire finished.

Conclusions from Examples Cited

The following conclusions, illustrated by these examples, may be stated:

First—When sufficient hose lines are at hand to control the fire, venting should be done immediately in any department, large or small.

Second—In the case of a small town or village department which has only a limited number of fire streams available the extent to which venting should be done must depend on the judgment of the officer in charge. There are times, as illustrated by the second example, where parts of the fire may be vented without affecting the rest of it and be dealt within turn, as a military leader may skillfully manoeuver his forces to defeat separately two bodies of the enemy.

There are also situations like the third example, when the unfortunate small town Chief is forced to fight the fire blindly and inflict much water damage before it is safe to ventilate the building involved.

At all times the knowledge and skillfull use of ventilating can be a very valuable asset to the Chief Officers of any department, regardless of its size or location.

Monticello, Ill., Buys Apoaratus—Monticello, Ill., has purchased new fire apparatus.

Three Killed by Oil Station Explosion
An explosion of mysterious origin destroyed an oil station in St. Ansgar, Ia., and killed three persons and injured another. The building was completely demolished.

URGES RESUSCITATION PRACTICE DESPITE MECHANICAL AIDS

Schaeffer Probe Method Commended by Dr. George Crile at Detroit Meeting of Civil Service Doctors and Surgeons

By WILLIAM JEROME DALY

DR. HARRY M. ARCHER, honorary medical officer of the New York Fire Department was elected president of the National Association of Police and Fire Surgeons and Medical Directors of Civil Service Commissions at the close of a three-day convention in Detroit, Mich., September 26-28. He succeeds Dr. George P. O'Malley, of Cleveland.

Dr. Carl H. Schulte, of the Detroit Fire Department, was re-elected vice president, and Dr. Glenn W. Stockwell, chief medical officer of the Detroit Fire Department, was elected a director for two years. Dr. John J. White, of the New York Fire Department, was re-elected treasurer, and Dr. Arthur Wildman, of the New Yok Civil Service Commission, was elected secretary. Dr. Wallace Dodge of the Los Angeles, Cal., Fire Department, was elected a director for one year. Dr. Hubley R. Owen, chief surgeon of the Philadelphia Department of Public Safety, and Dr. John P. O'Connell, of the Chicago Civil Service Commission, were re-elected directors.

The fire and police doctors had one of the most successful and progressive conventions held thus far. The chief speaker at one of the sessions was Dr. George W. Crile, head of the Cleveland Clinic Foundation, where a terrible disaster occurred last May. Dr. Crile gave a most illuminating lecture. He paid flattering tribute to the firemen and policemen of America, without making direct reference to the explosion and fire in the Cleveland Clinic.

Dr. Crile advocated the general use of oxygen tents and said they should be available in every city. He strongly urged that patients in shock should be kept warm because "the loss of one per cent in temperature equals a loss of ten per cent in vitality." He continued: "In the great war eleven years ago, of all the things then available to help the soldiers which did the most good, was to increase the patient's temperature, because it could be done early. Cold operating rooms on cold patients wrought havoc."

The lecture was heard by many Detroit physicians outside the membership of the association and by numerous members of Detroit Fire Department rescue companies. Dr. Crile doled out some important advice on the subject of emergencies when he said: "A cool head, calm judgment, surgical skill, warmth and oxygen are important in emergencies. Never try to do too much but be sure that what is done counts for something."

Dr. Crile said the Schaefer prone method of artficial respiration "is the best." When told by Daniel J. Donovan, chief surgeon of the New York Police Department that the Consolidated Gas Company had made a gift of $36,000 worth of automatic respirators and placed one in every hospital in New York, Dr. Crile warned—"Don't let respirators discourage continued training in the Schaefer prone method of resuscitation."

Dr. Donovan exhibited a motion picture showing in an animated way the approved method of artificial respiration. Fire Commissioner C. Hayward Murphy, of Detroit, exhibited for the first time in public a new film showing the Detroit Fire Department in action.

Paxton Mendelssohn, chairman of the Fire Prevention Committee of the Detroit Chamber of Commerce, Deputy State Fire Marshal, donor of the Fire Department's ambulance in Detroit and head of the Box 12 Associates was elected to honorary membership in recognition of his humanitarian services to the firemen of Detroit. Another elected to honorary membership was Fireman John J. Delaney, chauffeur of the New York Fire Department's ambulance and aide to Dr. Archer. Fireman Delaney is a skilled first aid worker and especially proficient in artificial respiration.

The 1930 convention will be held in New York City.

Madison, Wis., May Buy Fire Apparatus—Madison, Wis., is considering the purchase of a pumper and a new service truck. The apparatus will cost $20,000.

Newington, Conn., Has Three New Pumpers—Three 500-gallon Buffalo triple combination pumpers have been delivered to Newington, Conn.

New Station Urged for Chicago—Commissioner A. W. Goodrich of Chicago has urged that a new fire station be erected to replace a building erected in 1893 and which now houses Company No. 56. At the November election the city will vote on a bond issue for fire department improvements.

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

SOMETIMES it is the minor or petty things that prove most annoying.

Chimney fires are no exceptions. They cause little actual damage by fire, and they are not difficult to extinguish. But there is the constant danger that overzealous firemen might permit water, soot and smoke to enter the various rooms and thereby cause damage to furniture, floors and wall decorations.

Such an item is not to be passed over lightly. A heavy smudge on a wall or a dark spot on a floor often means that the entire room must be gone over. Skilled mechanics today, are paid excessive salaries, and the charge for repairing damage done to a house interior by chimney fires, rises up to an almost unbelievable amount.

But with care and the use of modern methods, most of this damage may be avoided.

A year ago, the following item was printed in a newspaper in St. Stephen, N. B., which indicates the popular conception of work at chimney fires:

"Firemen in Milltown, Me., were called to a blaze in the chimney of the home of John Grover on Thursday last. The chemicals were used thus preventing the firemen from doing any damage."

The question discussed appears in the box on this page. In the box on the following page is the problem that will be treated in the next issue. Should you have some comments that you would like to make on the next problem or if you have a question that you would like to see treated in this department, write to "The Round Table Editor," FIRE ENGINEERING, 225 W. 34th St., New York, N. Y.

Here Is the Problem

What method do you employ for extinguishing chimney fires?

Has it proven satisfactory?

Does it result in any appreciable water damage or other injury to property?

The Question

Salt, wet blankets and dry powder are some of the means used to prevent property damage. The replies received follow:

C. J. Beatty, Chief, Jamestown, N. Y.: In the past few years we have received a number of calls for chimney fires. The older dwellings were constructed during the time when plenty of gas was available for heating and cooking. However, we were faced with a gas shortage and everyone was compelled to use coal and wood in their stoves. Consequently, a large number of chimney fires resulted. The chimneys were not equipped with flue linings and the openings were small. The more recent buildings are equipped with flue linings which eliminate some of the chimney fires.

In 1926 we had sixty-two chimney fires; in 1927, forty-nine; 1928, forty-one, and so far this year we have had only twenty-three.

In most cases we simply let them burn themselves out where there is no apparent danger. Sometimes we use soda and acid to extinguish such fires. We have also used Kilsoot to good advantage.

We seldom have a chimney fire that causes any insurance loss and in most cases the loss is caused from smoke that comes through the building. We advocate a chimney cleaning campaign in the fall of the year. I believe this accomplishes a great deal.

F. Dubois, Chief, Kenora, Ont. Canada: Chimney fires is a subject in which I am keenly interested, as we receive numerous calls of that description.

In the first place, it is important to remember that such fires are not to be treated too lightly. I can quote a number of instances where serious fires have been caused by improper attention or lack of attention. I maintain that this is a problem which should not be allowed to pass over without due consideration in every respect.

Unless a chimney is fully burned out when we reach the scene I immediately have a wet sack or a wet rag put into the cleanout pan at the base of the chimney or smoke pipes. In a very short time the fire is completely extinguished without making a mess on the premises or doing any damage to the pipes or inside walls or lining of the chimney. This method has always proven very satisfactory, and after all, it is results that count.

Another way of eliminating a great many fires is to have the chimney sweep report any defects he finds. He comes in contact with conditions that no one else does. In most cases people will appreciate suggestions offered for safeguarding their premises from fire.

J. S. Murphy, Chief, Kingston, N. Y. I have used chemical extinguishers of the soda and acid type for extinguishing chimney fires. We also use the powder extinguishers. Chains are let down the roof to remove the burning soot.

In using the soda and acid extinguishers in the old type houses having chimney openings on each floor to receive the stove or heater pipe, I find that at times the chemical will flow out of these openings and cause unnecessary damage to paper and paint on the side walls.

The powder type chemical extinguisher has never been given a fair trial here. The fires upon which I have used this powder have never been large enough to get proper action.

The use of the chain from the roof for breaking away the soot and removing it from the chimney has been the most satisfactory method used so far.

Frank Charlesworth, Chief, Providence, R. I.: In answer to your question regarding chimney fires, I would say that we are governed in a measure by the character of the structure in which a chimney fire is located. In instances of residences having open fireplaces, we place blankets over such openings and then send a weight of substantial construction down the chimney. This releases the burning soot from the walls and permits it to fall to the base of the chimney. The blankets over the openings confine the soot within the chimney structure. By this method I think that a fire can be put out without creating any loss to contents of the building, or causing the soot to spread along the rooms. Sometimes, in extreme cases, a chemical extinguisher is used. In the case of larger structures, the chimney is washed down, care being taken, if any openings exist, to see that they are covered.

Jos. Waidelich, Chief, Topeka, Kans.: We make no attempt to extinguish chimney fires. If extinguished, and the chimney is not cleaned out, you have the same condition as before. In this district we use soft coal and some wood. If the chimney is small in comparison with the heating plant, fires will start. It is practically

impossible to prevent this. We guard the building until the fire in the chimney has burned itself out. This as a rule only takes a few minutes.

I believe that if chimneys were properly built and the building has a roof of fire resistive construction, there is very little danger of any great damage being done.

F. J. Ostertag, Chief, Burlington, Ia.: In answer to your question I would like to state that we employ the following method in extinguishing chimney fires: If the chimney is burning badly, we usually clean it out, pushing all the soot and fire to the bottom were we remove it. We also see that all openings are closed and before leaving we examine the roof, attic, and all the rooms where the chimney runs through. This is done so as to be sure that the fire has not spread.

If the chimney is not burning badly we do nothing except inspect the roof and interior. Men watch the roof until sparks cease to fall. A strong solution of salt water is a great help when thrown in the bottom of the flue. No injury is done at any of these chimney fires either to property or contents and the methods we employ have proven very satisfactory.

C. A. Brown, Chief, Aberleen, Wash.: The method I employ at chimney fires is to keep the roof, or any place where sparks are flying, wet down. See that all draughts on stoves or furnaces are open. This allows the cold air to circulate through the chimney and keeps it from overheating and setting the woodwork on fire around it.

I also have live coals removed so that they do not clog up the stove and pipe hole. This is more liable to occur in a bracket flue but if they are not removed the woodwork near the pipe is liable to be ignited by the intense heat.

E. Seymour, Chief, Plattsburgh, N. Y.: We use the soda and acid chemical for chimney fires, especially if they are built from the cellar where there is a clean out-door. If the chimney is built on a wooden support, we use only enough of the chemical to extinguish the blaze, and then clean it inside at the base of the chimney. If it is necessary to use more chemical than the chimney will hold, we use a pail or pan to catch the overflow, thereby not causing any more damage than necessary.

We have used several different compounds but have found that soda and acid give the quickest results and the cost is about fifteen cents for one two and a half gallon extinguisher.

James J. McMillan, Chief, Orange, N. J.: My experience has been that no one method will extinguish all chimney fires. The following are some of the methods used by this department.

1. Chemical tanks and extinguishers used from above.

2. For a troublesome fire caused by soot under a ledge of the chimney, we sometimes build a very hot wood fire on the hearth, or in the stove, as the case may be, and sprinkle with water from a sprinkling can. This creates steam which will put out a fire that cannot be reached otherwise.

3. Sambo, Kilsoot and other preparations have been found satisfactory under certain conditions.

The last two methods mentioned eliminate water damage.

Hugo R. Delfs, Chief, Lansing, Mich.: The general method of extinguishing chimney fires in this department for the past twenty-five years is as follows: Wall ladder raised immediately and roof ladder to chimney. Firemen follows up with a bucket of salt but does not dump in chimney. It is thrown down chimney in handfulls as forcibly as possible. This method proves very satisfactory. If the chimney fire is not very bad, salt could be thrown in the heating plant proper. This does the work.

There are several chemicals on the market, one in particular named "Sambo." We have tried this on several occasions by throwing same on top of the fire in the furnace and it works very well. A handful of zinc, occasionally thrown on top of a heating plant fire will keep a chimney very clean and free from soot.

We never use water to extinguish a chimney fire. This would indeed prove a very poor method. With a red hot chimney fire water could do untold damage to the chimney; besides openings in the chimney on the first, second and third floors permit water to spoil the decorations.

Jeremiah McGill, Chief, Trenton, N. J.: In the early days of the department I know of several cases where water and chemicals were used and wall paper and carpets were damaged. But at the present time we use chemicals only. Precautions are taken to prevent damage to property. On numerous occasions the sweep alone is effective. There is no doubt that care should be taken in eliminating fires in chimneys in order to do as little damage as possible.

F. F. McConnell, Chief, Anderson, S. Car.: At chimney fires, we always stand by. However, in most we have to use chemicals and sometimes water lines as most of the alarms we receive from this cause come from the residential sections where wooden roofs predominate. It is necessary to eliminate the chimney fires in these sections as quickly as possible. If they were permitted to burn out we would be faced with a roof fire.

E. V. Stone, Chief, Ludlow, Mass.: We are faced with many chimney fires from October to May, especially in the farming district of our town. Most of the fires are in chimneys where green wood is the usual fuel used. For chimney fires that have not extended beyond or outside of the chimney we use the Dahill chain sweeper. This, to our minds, is the ideal tool for handling such fires. After using it on a chimney we have never been called to another fire in the same chimney for at least a year. Previous to purchasing the Dahill sweeper, water losses were common. However, losses of this kind can no longer be charged against the fire department.

Geo. J. Harris, Chief, La Grange, Ill.: My method of extinguishing chimney fires is as follows: Open all windows in basement or room; pull out pipe from chimney hole and put the nozzle of the hand pump upward in the chimney. This method of extinguishing chimney fires does not damage any property.

Sometimes it is necessary to pull the fire out of boilers or stoves and then use the hand pump.

One precaution that should be taken is to be sure that the fireman handling the nozzle is supplied with gloves to protect his hands from sparks that may fall.

In my twenty-two years of experience as a fire-fighter, this method has always proven satisfactory.

Peter J. Rosar, Chief, Scranton, Pa.: We use a chemical preparation called "Imp" (manufactured in England), to put out chimney fires up to the size of an 8 x 8-inch flue. When we are required to extinguish a chimney fire of larger dimensions we use either wet coal or ashes.

Wm. H. Cook, Chief, Hartford City, Ind.: We have been very successful in extinguishing chimney fires and roof fires with our chemical and booster tank combination. So far we have been very fortunate in having very little damage from water or chemicals.

W. W. Walker, Chief, Argo, Ill.: Chimney fires in ordinary residences are handled by throwing a good quantity of salt into the furnace or range and closing the draughts. This means has proven very satisfactory. If the fire is too big for this method, a stream of water is run through chemical hose. When this is used carefully, little damage is done to property.

A. P. Kreher, Chief, Clearfield, Pa.: We have used soda and acid extinguishers to put out chimney fires. Compounds sold by various concerns, or water are sometimes used. However, soda and acid and water are not satisfactory as they cause too much damage to the bricks, concrete blocks and flues.

Jos. M. McKeon, Chief, Seneca Falls, N. Y.: For the past two years we have been using a preparation known as "Sambo." This is a powder substance which creates oxygen. This penetrates the chimney and removes the soot deposits in a few moments time.

(*Continued on page* 964)

Here Is the Problem for the Next Issue

What cooperation exists in your city between the water department and the fire department, particularly in the extension of water mains, location of hydrants, inspections and repair of hydrants, etc.?

Who determines the location of hydrants, and the size of mains for fire protection?

WITH THE EDITOR

Where to Meet Next Year?

One of the important matters that the coming convention of the International Association of Fire Chiefs must decide is the city in which next year's annual meeting must be held. This is decided by vote upon the floor of the convention.

No doubt the representatives of several cities will advance claims for the honor of entertaining the Nation's Fire Chiefs, and will put forward reasons why their municipality should be favored in this respect.

As a matter of justice, it would seem that the cities in the north central portion of the country should be given the preference. The South latterly has been especially favored in entertaining the Chiefs, conventions having been held in 1923, in Richmond, Va.; 1925; Louisville, Ky., and 1926, New Orleans, La. The West was given the 1927 convention, it having been held at Portland, Ore., and the Middle Eastern section had the Buffalo convention in 1924 and the Philadelphia gathering last year.

Thus the North Central states of the country have been neglected in this respect, and it would seem only right that, all other things being equal, a city situated within this radius should be favored for the fifty-eighth convention in 1930.

Besides this the territory mentioned is a growing and progressive portion of the country, and its chiefs have shown that they are alive to the needs of the Nation in matters of fire fighting and fire prevention. They have been active in matters connected with the Chiefs' Association and have in every way shown that they are worthy of one of their number being chosen as the host of the association.

The section is rich in scenic advantages, and there are several cities capable of entertaining the Chiefs capably and well. The North Central section should receive earnest consideration in the choosing of the 1930 Convention City.

Scrapping Old Fire Apparatus

Life insurance experts often refer to the "expectancy of life," in advancing statistics in regard to their profession, and this, of course, refers to the length of span that the years of the prospects may be expected to cover.

Fire apparatus also has an expectancy of life, but many fire departments do not seem to be aware of the fact, if the antiquated and out of date apparatus which supposedly guards the city from fire is any criterion. There is a tendency among many cities to hang on to the old fire engines until they are ready to fall apart from age and decrepitude.

The job of the fire department mechanic is to tinker with these ancient machines and keep them in some semblance of efficiency—and often a mighty hard job it is! In the mean time, however, no matter how carefully these apparatus have been repaired and how apparently serviceable they may appear to the outward view, there is always the serious risk of the old and worn out parts failing at the crucial moment, when such a failure may mean a serious fire or even a conflagration.

Such a practice may savor of economy to the taxpayer who knows little except that his tax bill is high and cares less. But to the fire chief and others who understand the fire-fighting game and to the expert a policy of this kind is well nigh suicidal. These men know that the life of any machine, no matter how well and carefully made, can only be so many years, and after that dangerous failures are probable.

It is not only wiser, but in the long run much more economical to replace the worn out apparatus when signs of failure begin to manifest themselves, rather than to hold on to it and tinker with it, to postpone the expense of replacement. Especially is this true, when it is remembered that one serious failure may result in the loss of many thousands and perhaps even millions of dollars in fire damage.

The keeping of apparatus and equipment in the pink of condition and up-to-date in every particular and the willingness to spend thousands of dollars, if need be, to attain this object is a wise and also an economical policy.

Firemen Should Be Supplied with Railroad Flares

A serious accident, involving the death of a fire apparatus driver and the demolition of the truck by a fast express train in Connecticut, contains a lesson as to the equipment of fire departments which are compelled to cross railroad tracks. The Fire Department of Madison, Conn., was called upon to fight a barn fire, the only hydrant available being across the track from the barn ablaze. The driver sent a man up the track to notify the railroad towerman to set the signal against any approaching trains, as he was about to lay a hose line over the track. The hose was then attached to the hydrant and the driver started to drive across the track. At the moment when the apparatus was directly in its path, the Boston express struck it, carrying the truck 3,000 feet down the track, completely demolishing it, and instantly killing the driver.

It turned out that, according to testimony before a grand jury, the towerman was absent from his post viewing the fire, and when notified by the messenger

sent by the fire truck driver, did not have time to run to his tower and stop the oncoming express.

If the man sent forward by the driver had been supplied with a railroad flare, red lantern, flag or torpedo, so that instantly, when he discovered the absence of the towerman, he could have signalled the oncoming train, the accident would not have occurred. This emphasizes the necessity of such equipment for fire departments, so that they will be independent of any failure of the railroad personnel to perform their duties, and can properly safeguard the lives of the members and the property of the department.

Such equipment, besides being absolutely essential to the safety of men and apparatus, is inexpensive, and requires practically no instruction for the men to master its use. As in the present case, the use of precautions of this kind would mean not only the safeguarding of the lives of the firemen, but will save the railroad itself from accidents involving fire departments, which always mean legal complications and added expense for it.

Apparatus Destroyed at Arbuckle, Cal.—Fire apparatus of Arbuckle, Cal., was destroyed while fighting a fire in a barn in which two hundred tons of baled hay were destroyed.

Denver Razes Oldest Fire House—The oldest fire house in Denver, the home of Engine No. 2 since 1884, is being razed. It was the first fire house to be built after a paid department was established.

Determining the Cigarette Hazard of Airplane Passengers

A rather novel test was conducted by the Forestry Department, Los Angeles County, California, to determine the danger to forests and brush from lighted cigars or cigarettes being dropped from airplanes overhead. Thirty lighted cigars and cigarettes were dropped from an airplane at various altitudes. Nine cigarettes and twelve cigars were recovered by the crew of watchers on the ground. Of this number seven cigarettes and nine cigars were still burning when they were picked up, and if unattended, could possibly have started brush or forest fires. The upper photograph shows the county foresters searching for smoldering butts, and the lower one, fire apparatus of the county fire department, extinguishing the fires caused by the butts.

Knoxville Now Has Drill School

Firemen in Knoxville, Tenn., now receive instruction at the drill tower in accordance with methods brought back by a fireman sent to the St. Louis drill school. The men are taught rescue work and how to solve some of the problems met in city fire-fighting.

Drill Tower.

An instructor was furnished by the national organization of the American Red Cross for a ten days school in first aid. The drill master and his assistant qualified as instructors, and it is the plan of Chief C. M. Johnson to have these men relay the information to others in the department.

Plans are being made for a system of building inspections to be made by firemen in order that they may become acquainted with the interior construction of buildings, and the hazards in their district. Reports on fire hazards found will be turned into the office of chief fire inspector.

The department also plans to train firemen to lecture at public gatherings. The chosen speakers will address meetings of Boy Scouts, Girl Scouts, civic organizations and school children. In this way Knoxville hopes to spread the teachings of fire prevention.

Steam Fire Engine Model for Sale

A working model of a first-class steam fire engine has been designed by Leslie W. Jennison, Elmira, N. Y., formerly with the old La France Fire Engine Company for many years. Later he became master mechanic of the Shreveport, La., fire department, and then returned to Elmira.

Here he met with a paralytic stroke that affected his right arm and side. With but the full use of the left hand, Mr.

Lieut. "Art" Espey and the Model Steam Fire Engine

Jennison constructed the model which is reproduced in the photograph. The task was completed in three years after much discouragement including a boiler blow-up when the boiler was tested under pressure.

The designer would welcome any suggestion as to how this model could be disposed of to his financial benefit. Because of the handicap, the builder has been deprived of a steady income for many years. Any one interested is asked to communicate with Lieutenant Arthur W. Espey, Fire Headquarters, Elmira, N. Y., for full particulars.

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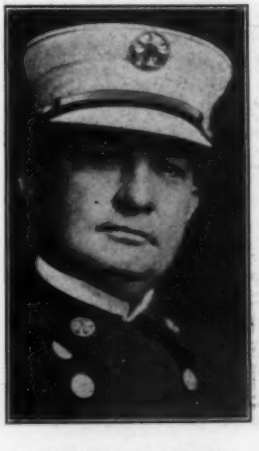

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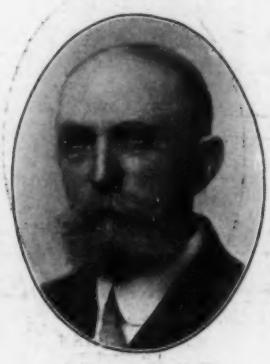

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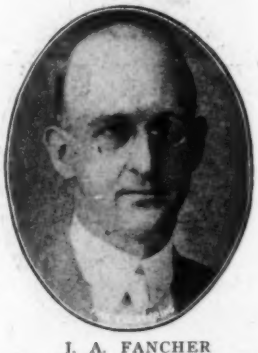

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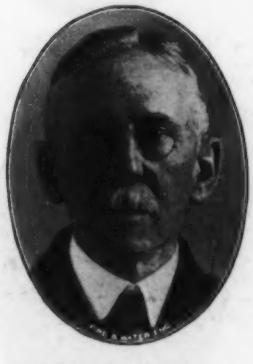

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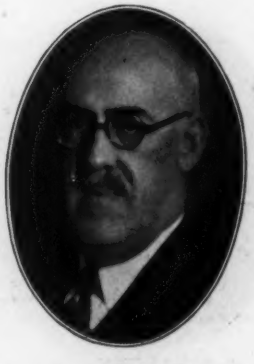

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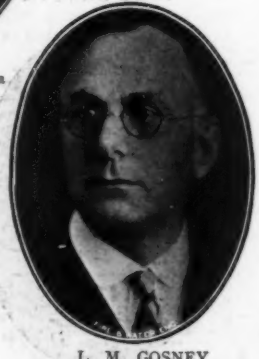

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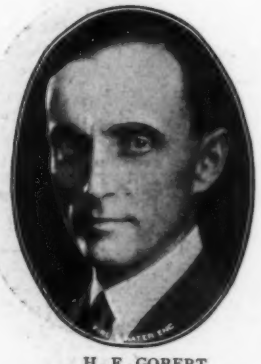

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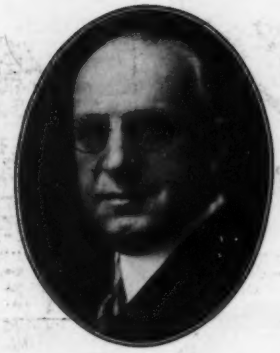

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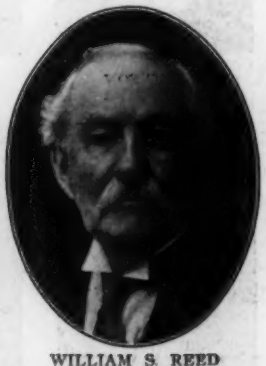

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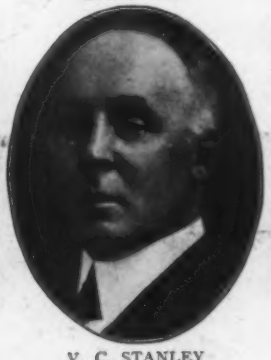

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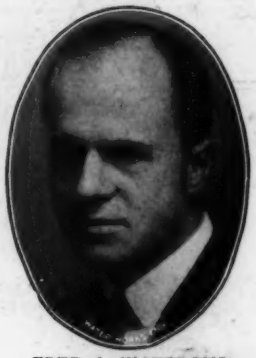

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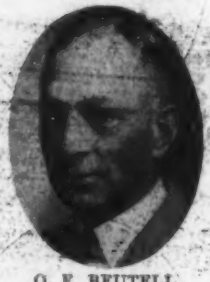

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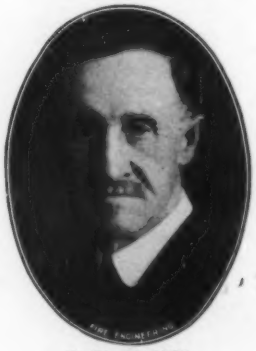

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Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Poisonous Gases and Tank Discharge

To the Editor:

I recently read in FIRE ENGINEERING an account of Cleveland Clinic Hospital fire wherein it was stated that nitrogen dioxide was the cause of death of many of the persons who lost their lives at that disaster.

Question 1. Does celluloid when decomposing always give off nitrogen dioxide gas?

Question 2. Please give a list of poisonous gases that may arise in the event of a fire. Also explosive gases.

Question 3. Is my solution of the following problem, as given below, correct?

A tank of water 20 feet in diameter, and 20 feet high, is filled to the top. How long will it take to empty the same through a 2½-inch outlet wide open, communicating directly to a pipe which terminates four feet above the ground. The tank is set on uprights 60 feet above the ground.

The way I figure it out is as follows:

Height of top of water above outlet is 60 — 4 or 56 feet. Add to this the 20 foot depth of water and we get 76 feet as the height of the surface of the water above the outlet.

Back pressure created by this head is 76 x .434 or 32.984, or 33 pounds approximately. This is the pressure at the outlet, when the outlet is first opened.

Contents in cubic feet equals 20 x 20 x .78.54 x 20 or 6283.2 cubic feet. Multiply this figure by the number of gallons in a cubic foot, namely, 7.481, and we get the total contents as 47,000 gallons approximately.

The discharge from the 2½-inch outlet is secured by the following means:

Discharge equals .80 x diameter x diameter x 30 x square root of pressure or .80 x 2.5 x 2.5 x 30 x 5.7.

This gives approximately 855 gallons per minute discharge.

Dividing the total contents of the tank, 47,000 by 855, we get approximately 55 minutes, the time required to empty the tank.

This answer would be correct, so far as I know, if the head remained constant, but every foot drop in the tank decreases the pressure at the outlet. This is the part of the question on which I would like definite information.

Question 4. Please give me a list of volatile liquids and their flash points.

Question 5. Please give me what information you can on this question: I understand how to find friction loss and change 3-inch hose to 2½-inch, but I have never seen any method whereby I can determine the friction loss on 3-inch hose having 2½-inch couplings.

Respectfully yours,

E. W. J.

Answer 1. Yes, when ordinary celluloid is decomposed nitrogen dioxide gas is always present. The quantity of the gas will, of course, depend upon the process of decomposition as well as the particular ingredients in the celluloid which is decomposed. Compositions of celluloid vary widely, and products of decomposition likewise vary considerably, depending upon the amount of air present.

Answer 2. It is presumed you have reference to any fire and not alone to celluloid fire. In such case, the gases thrown off depend upon the materials burning. It would be impossible to list all of the gases generated at fires of different types. This much may be said, however, that carbon dioxide is present at all fires and carbon monoxide at a great many.

Answer 3. Just as you suggest, an error creeps in where you consider head of water constant. A very fair approximation of accurate results would be secured by taking the average height of water in the tank, 10 feet. In other words, we would divide the 20 by 2 to get the average height and this figure, 10, would be added to the 56 feet to give us 66 feet instead of 76, as used in your calculation. Using this particular head, the results you would secure would be very close to 100% accurate. When the tank is full we have 20 feet to consider, whereas when it is empty we have no depth. Adding the 20 to 0, we get 20, which, divided by 2 for the average, gives us 10 feet depth.

Answer 4. You are referred to the "Condensed Chemical Dictionary," published by the Chemical Catalog Company of New York, for this information. Space here would not permit listing all of the different types of inflammable volatiles and their flash points.

Answer 5. An approximate method which will your purpose in finding friction loss of 3-inch hose with 2½-inch couplings is to find friction loss for a similar length of 3-inch hose with 3-inch couplings, and when you have secured this friction loss, add 10% to it. In other words, suppose the friction loss in a certain length of 3-inch hose were 40 pounds. To find the friction loss in the same length of hose with 2½-inch couplings we would add 10% of 40 or 4 pounds to the 40 pounds, giving us 44 pounds as the friction loss in the length of 3-inch hose with 2½-inch couplings. This method gives you results which are slightly greater than you would secure by test with moderate flows in hose lines. Nevertheless, it is a method which plays safe.

Sulphuric and Nitric Acids

To the Editor:

Will you please answer the following question as soon as possible? Is nitric or sulphuric acid explosive or inflammable?

What effect have they on a person when liberated under fire?

What is the proper method to neutralize these acids when involved in fire?

Yours very truly,

J. S. M.

Answer: Nitric and sulphuric acid are neither explosive nor inflammable.

Both are highly corrosive; that is, produce a searing effect on the lining of the lungs, when inhaled. Nitric acid, in particular, is extremely hazardous from this standpoint, the fumes thereof frequently causing death when inhaled in sufficient quantity. Sulphuric acid, on the other hand, while not quite as deadly, presents a life hazard where it is encountered at a fire.

Nitric acid fumes are hard to detect when mixed with smoke, and hence are more dangerous than those from sulphuric acid.

Either nitric or sulphuric acid may be neutralized when present in small quantities by the use of soda, thrown directly in the acid.

When present in large quantities, about the only thing that can be done to reduce danger thereof is to drench with water.

Nitric and fuming sulphuric acids will ignite combustible materials with which they come in contact, but when diluted with water, this possibility is eliminated.

Bode, Ia., Buys Apparatus—The town of Bode and eighty farmers living within a radius of seven miles of the town have contributed to the purchase of fire apparatus.

Two Pumpers Housed at Norristown, Pa.—Two new pumpers have been officially placed in service at Norristown, Pa.

FIRE EXTINGUISHER TESTS ON FIRES IN AIRPLANES

Some Interesting Results on the Effectiveness of Foam and Carbon Dioxide Gas

WHEN a manufacturer conducts a test to determine the effectiveness of two of his different types of fire extinguishing appliances on a particular type of fire, the results are apt to be of particular interest, for the element of bias is entirely absent. For that reason the following data on the use of foam and carbon dioxide gas in extinguishing airplane wreck fires contain some really useful figures.

What happens when an airplane crashes and takes fire was graphically demonstrated on Monday, September 16, at the Utica, N. Y., testing grounds and experimental station of the American-LaFrance and Foamite Corporation of Elmira, N. Y.

The tests, which were conducted on two actual airplanes purchased by the American-LaFrance Company especially

Extinguishing a Blaze in an Airplane "Crash" During a Test

Upper, the cone shaped nozzles are discharging carbon dioxide gas from the eight cylinders shown at left. The white "smoke" shown is from the gas, the shower of sparks is from the "doped" surface of the airplane wings. Lower, just before the discharge from two small foam generators was turned on the fire. Approximately 20 seconds later the intensity of the fire had been lessened while inside of three minutes the burning plane had been extinguished.

for the occasion, were witnessed by Wing Commander L. S. Breadner and Squadron Leader Herbert Edwards of the Canadian Royal Air Force and were arranged by the American-LaFrance Company in cooperation with the Canadian Department of National Defense.

Realizing that the danger of fire constitutes one of the most serious problems in the development of aviation, the Canadian Government arranged for the Royal Air Force flyers to attend the demonstrations so that they might gain first hand information about fire hazards in airplanes and about airports and the most effective methods for extinguishing them in the quickest possible time.

In order that the tests should represent actual conditions as closely as possible, each plane was set-up as follows: Fuselage resting on the ground; lower wings draped from lower part of plane to ground; upper wings supported by frames and elevated above the cockpit in practically a horizontal position; 50-gallon steel drums placed in the nose of each plane, perforated at the bottom and filled with about 12 gallons of high-test gasoline. When a plane crashes the gas and oil tanks usually rupture. Therefore, to duplicate these conditions between 20 and 30 gallons of high-test gasoline and about three gallons of oil were thrown over the ground and into the motor compartment of each plane.

Fire in the first plane was fought with carbon dioxide gas, contained in eight 50 lb. Alfite cylinders in two batteries of four cylinders each. The two batteries were manifolded together and four flexible metal high-pressure hose lines connected the manifold to the four discharge nozzles. The fire was started and when it had progressed to the fuselage and wings, the gas was directed toward the fire by four men, each operating a discharge nozzle. It was difficult for the men to approach close enough to the burning plane to do effective work, due to the intense heat generated by the burning wings. In a few seconds the inflammable wing fabric had burned away, however, and it was then possible for the operators to advance directly toward the gasoline fire which was by this time concentrated under the forward part of the fuselage. The first battery of four cylinders, which was discharged in less than a minute, was not sufficient to extinguish the fire. The second four cylinders were then utilized and the operators succeeded in completely extinguishing the fire. They had scarcely retired, however, when a reflash occurred which reignited the exposed gasoline on the ground. It was necessary to extinguish this reflash with foam equipment.

The second plane fire was fought with foam, generated by two small Foamite generators. This fire was a more serious one with which to contend because of the fact that the plane was larger and that more gasoline was used than for the first test. Within a few seconds after the firefoam was introduced, the two operators were able to cut down the intensity of the fire to such an extent that they could approach in close proximity to it without taking punishment from heat. The fire was well under control within 20 seconds and completely extinguished within three minutes.

In both cases, before the respective extinguishing mediums were introduced, the fires burned with great intensity, for, in addition to the high-test gasoline involved, the doped wings and fuselage coverings burned with a fierce white light and showered sparks about the vicinity.

Conclusions drawn from these tests were, that while Alfite (carbon dioxide) gas might, in some cases, be sufficient to extinguish a particular airplane fire, firefoam is the better extinguishing medium when considered from every angle and may be used with greater safety to the operators. The problem resolves itself basicly to the fact that unless the entire zone of fire can be completely enveloped with the suffocating gas, the fire will not be extinguished and will reflash with all of its original intensity.

The advantage of foam in fighting such fires is that it may be discharged by an operator from a distant point because of the range of the stream. In addition, wherever it is applied it is effective in cutting down the heat of the fire and will adhere to any surface to which it is applied, rendering that material uninflammable.

Chief Hunt of Weymouth Dead

Chief John Q. Hunt, Weymouth, Mass., died on October 8 as the result of smoke inhalation and heart trouble which caused him to fall in an unconscious condition during a fire in the Jackson Square Bakery in the Greenburg Block on Broad Street, Quincy.

The chief was leading his men to the heart of the blaze, when a large pan of grease flared up just in front of him and he staggered and fell. He was carried to the street by his men, but did not regain consciousness.

Chief Hunt had been a member of the Weymouth department for twenty-five years and had been chief for five years. He was fifty-six years of age and is survived by a wife and four children. He was a member of the Fire Chief's Club of Massachusetts, the New England Association of Fire Chiefs, and the International Association of Fire Chiefs.

HARRY BELKNAP.

Chelsea, Mass., Firemen Build Apparatus—Apparatus, especially designed for fighting oil fires, has been built by members of the Chelsea, Mass., fire department.

Hamilton Square, N. J., Opens Fire House—A new fire house has been placed in service in Hamilton Square, N. J. Chief McGill of Trenton spoke on "What Makes a Good Fireman?"

DRAPERIES IN NIGHT CLUB PROVED SERIOUS LIFE HAZARD

Fire in "Study Club" Results in 22 Deaths and Injury to 50 Persons—Wall Hangings and Decorations Blamed for Quick Fire

By WM. JEROME DALY

THE fatal fire in the Study Club at 65 Vernor Highway, Detroit, Mich., early in the morning of September 20 resulting in the death of twenty-two persons and injury to fifty others, is still the subject of official inquiry by the prosecutor of Wayne County. It has so electrified the public as to cause considerable concern among four municipal departments as well as officials at City Hall.

The club, one of a species of late-night and early-morning resorts that quietly came to life when the Volstead law was written into Federal statutes was a typical rendevous of above average caste and patronized by an outwardly respectable clientele.

Exterior of Building After the Fire

This night club is located in the heart of the down town section of Detroit. The fire itself did very little damage and was soon extinguished by the fire department.

The establishment had a clear record with the local Prohibition enforcement officers. The building was once the residence of one of Detroit's first families, later becoming the home of the Wayne County Medical Society. The plant is a combination of two brick buildings—the front building being three stories, about 25 x 50 feet with two bays in the front, and the rear extension (built and added in 1913) was about 25 x 40 feet. To the left is an open parking space, to the right a ten foot alley between buildings and to the rear an open lot. Floors were wood as were most everything else inside, except for metal window casings on the rear building.

The club, owned by a Martin Cohen who, so far as could be learned, was not in ill repute with the authorities. It was licensed by the Detroit Department of Recreations to a maximum of 250 persons. Cohen was not there when the fire occurred.

In Detroit, the Police Department controls the crime or moral phase of such a place; the Recreation Department passes on the amusement or entertainment features; the Fire Department on the question of its disputed responsibility—if indeed it had any—and the Building Department from the standpoint of structural conditions. The latter department filed a violation against the rear fire escape of the club, caused the removal of the fire escape as unsafe and ordered a new one erected, but that order had not been executed up to the night of the fatal fire—indeed the dismantled fire escape was still on the ground below the window of the dance hall in which most of the victims perished

The order of the Detroit Building Bureau to supply an additional means of egress via outside escape was made October 8, 1928. Nevertheless, the Recreation Department recommended to the Police Department that a license be issued to the club for one year from July 1929 to July 1930.

The entrance to the building was protected from the weather by a canvas canopy extending from the sidewalk and snugly fitted to the arched doorway up a short stoop to the first floor hallway, where there was a kitchen, an office, a cloak room and a cigar stand. This floor had a long corridor leading to a stairway in the rear of the main building which in turn led to the foyer of the second floor near the entrance to the dance hall.

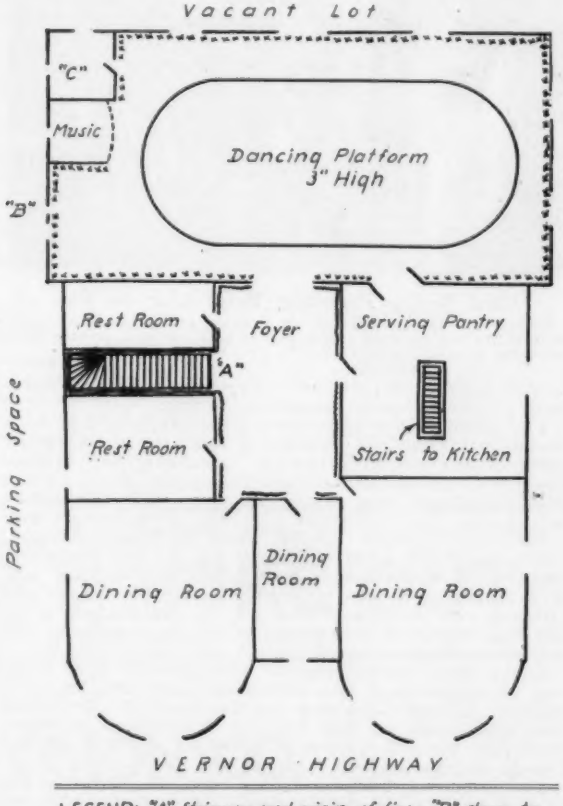
There was no secondary means of egress. An interior stairway between the kitchen on the first floor and a serving pantry on the second floor was obstructed from the view and beyond the knowledge of the patrons of the place.

The public stairway and the second floor foyer were lined on the sides and overhead with some sort of flannel or flannelette drapery which was hung to the main door of the dance hall.

The second floor is shown in the accompanying sketch. Its windows (as such) were not boarded up as reported in the public press, but rather the walls and ceiling of the dance floor were covered solidly with a latticed veneer. The open panels were entwined with a covering of artificial foliage, dipped in some sort of vari-colored solution to give it a natural effect. This decorative scheme had the same effect as barricading the windows of the dance hall. The only windows not blocked were those in the dressing rooms and the private dining rooms in the front of the building.

An exhaust fan in the center of the dance hall ceiling is credited with giving the fire added impetus and aiding the destruction of human life.

Shortly before 1:30 a.m., an unidentified man and woman leaving the resort told the check room girl in the



Floor Layout of the "Study Club," in Detroit

lower hall that there was a small fire at the foot of the stairway and said she ought to get some water and put it out. The check girl ran to the kitchen nearby for a bucket or pitcher of water and when she returned, the fire was traveling up the wick-like draperies to the floor above. Some persons are of the opinion that the man or woman, or both of them, may have accidentally caused the fire by throwing a match or lighted cigarette and in making a hurried exit, left the front door open, and the enclosed sidewalk canopy, plus the tightly covered stairway furnished the flue through which the fire was fanned under draught into the tinder dry-leaf covered dance hall.

At all events, the check girl ran into the kitchen and told the chef. He rushed out, but he found a job for a fireman. So far as could be learned there were no extinguishers or other fire fighting devices.

The head waiter standing at the arched entrance to the dance hall was met with a rush of smoke, heat and flames. What happened then will probably never be told twice the same way. Physical evidences are that the patrons in the rear of the entrance to the dance-hall were cut off from escaping by the main stairway. The only avenue left to them was the rear dressing room windows into which they stampeded. The windows were of the axle type, i. e., they balanced horizontally on lugs or nipples in the center panel only—the upper and lower panels being stationary. The center swinging panel opened inward at the bottom edge and outward at the upper edge. The pressure of frenzied

Chief DeMay Examining Ruins After the Fire

Through this hole in the wall, many of the guests jumped to safety. Most of the victims were penned in two small rooms and were either suffocated or trampled to death.

mortals against these windows only served as another instrument of destruction to strengthen the trap.

The alarm of fire was sent in from a street box by a passing policeman and recorded at 1:32 a.m., at the central office of the Fire Department. Battalion Chief William Burgess in charge of buildings and stores of the Detroit Fire Department was passing at about that time on his way home. He despatched a second alarm to get men rather than apparatus. Deputy Chief Thompson, Assistant Chief Dwyer and Chief of Department De May responded. The firemen rescued many by breaking into blocked windows from atop ladders, while engine companies "made" the stairway with a couple of lines and the fire was out in ten minutes. As a fire, it was negligible. As a panic, it was a different story as the toll of dead and injured testify.

Before dawn several separate investigations were under way by various municipal, county and state agencies. Fire Marshal Gabriel Goldwater and his staff of the Detroit Fire Department led the band of investigators. Deputy State Fire Marshals Paxton Mendelssohn and R. J. Morris, also made investigations.

The joint report of the deputy state fire marshals was filed at Lansing the state capitol. Its contents could not be learned. Mr. Mendelssohn referred all inquiries to the state fire marshal with the plea that it was a confidential document. Mendelssohn is chairman of the Fire Prevention Committee of the Detroit Board of Commerce.

Fire Marshal Goldwater, in a published report disclaimed any negligence or oversight on the part of the Detroit Fire Department. The premises were inspected by a member of the Fire Prevention Bureau on May 31st last in the regular course of routine inspections in that district. Goldwater reported that clubs such as the one in question are classed by the fire department as rooming houses. Premises such as night clubs, cabarets, etc., "have never come under the jurisdiction of the Fire Prevention Bureau in relation to obtaining a certificate of approval from the Fire Department such as is demanded in licensing theatres, and for that reason no special inspection has been made in the past of dance halls, cabarets, etc., before a license is issued, nor have we been aware of their existence," he wrote.

According to Marshal Goldwater's report—"it is the duty of the building department to determine the adequacy of exits or other means of egress." Goldwater's interpretation of the Building Code is that—"windows are not a means of egress, therefore it was not contrary to law to close or brick them up—that they are for light and ventilation only—a provision of the State Housing Code."

Twenty-four hours after the fire, Detroit city officials held a conference at which Marshal Goldwater represented the Fire Department. The representatives of the police, recreation and building departments were also there.

The Study Club disaster was discussed. It was agreed that in the future a certificate of approval must first be obtained from the Fire Prevention Bureau before the recreation department will issue a license to a night club, cabaret or similar premises.

The day following, Fire Marshal Goldwater addressed the inspectors of police at their headquarters and asked for their co-operation with the Fire Prevention Bureau—outlining their duties toward the safety of life and property, emphasizing to the police inspectors such subjects as decorations, exits, inflammable draperies or any other condition hazardous to life and urging the inspectors to take immediate action and notify the fire department. The police promised to do this.

During the week following the fatal fire, Mr. Goldwater made a flying tour of the city's night resorts and in several of them ordered remedial measures of conditions found and complained of.

Those that complied with orders of the fire marshal had their licenses restored. A week later, however, when Mayor Lodge, at the head of a raiding squad, appeared at some of these emporiums and ordered them closed, much surprise was expressed over the Mayor's order because the places had been previously inspected, and no cause for action found. All clubs, or premises akin to them, where draperies were found, were required to remove them or anything else that might tend to accelerate a fire or endanger the customers or occupants of the place.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands.

Week Ending October 4

GLEN ELLYN, ILL.—Barns on farm of T. A. Stanton	45
WAKEFIELD, MASS.—Whse. of Porter Milton Ice Co	40
E. CANONSBURG, PA.—Property of Chartiers Creek Coal Co	40
TANGIER BEACH, MD.—Yacht "Nepenthe" of O. B. Wearkley	50
ROZEL, KANS.—Several business establishments	80
PEEKSKILL, N. Y.—Eyrie Inn near Tompkins Cove	35
TILDEN, NEBR.—Tilden Mill, adj. property	30
EDMONTON, ALTA.—Tees & Persie bldg. damaged	35
LOWVILLE, N. Y.—Grain elevator, Louis Bush & Sons	25
BARNESVILLE, OHIO.—Property of B. B. Blumby	25
REDWOOD CITY, CAL.—Mansion of Michael Howard	45
MERRICOURT, N. DAK.—Thompson grain elevator destroyed	25
DEVON, PA.—Devon Park Hotel and adj. property	80
CLIFFORD LAKE, MICH.—Hotel operated by F. W. McConville	25
CLEVELAND, O.—Lumber yards, Cuyahoga Materials Co.	150
FARMINGTON FALLS, ME.—Plant of Farmington Falls Elec. Co.	40
HOLTSVILLE, MASS.—Pumping station, Orange Water Wks.	25
GALENA, ILL.—Mensel bldg. and adj. property	40

Week Ending October 11

HAVERHILL, MASS.—Plant of Bailly Bros., adj. bldgs.	40
TARRYTOWN, N. Y.—Home of S. M. Frame destroyed	40
HAMILTON CITY, CAL.—Sacramento Valley Cotton Gin Co. plant	25
UXBRIDGE, MASS.—Property owned by Dairymple	25

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LA SALLE, ILL.—Business block damaged 40
WEYMOUTH, N. S.—Fifteen structures damaged 100
MEMPHIS, TENN.—Five bldgs. at Duntreath Farm 70
ST. ANDREWS, N. B.—Wm. McQuoid garage destroyed 40
HUGHSON, CAL.—Main bldg. of Hughson Condensed Milk Co... 100
CAMAS, WASH.—Mill of Camas Lumber Co. damaged 40
KNOTT, TEX.—Plant of Planters Gin Co. 60
WILDWOOD, N. J.—Hotel Dayton damaged 25
SHARON, PA.—Washington Restaurant, adj. property 40
FREELAND PARK, IND.—Lumber yard of Crumm & Co. 65
ALEXANDER, N. Y.—Farm property of J. Hume, 3 m. N. 40
CLEARWATER, ARIZ.—Dance hall destroyed 25
AFFTON, MO.—Briggs-Nash Service Garage 80
FABYANS, N. H.—White Mountain House destroyed 80
NEW ORLEANS, LA.—Plant of Aubrey Barlett Co., adj. bldg. 80
OMAHA, NEBR.—Glenn Smith Fuel Co. plant 60
HAMMOND, LA.—Oaks Hotel destroyed 80
MARTINEZ, CAL.—Filling unit of Shell Oil Co. 170
BROOKLYN, N. Y.—Coal pocket of Burns Coal Co. 165
GALVESTON, TEX.—Two bldgs. of Acme Machine Co. 40
MILWAUKEE, WIS.—City Hall tower, damaged 45

WHAT HAPPENS WHEN WOMEN "SMOKE TO GROW SLENDER"

Women Smokers Have Increased Number of Fires Classed as "Matches-Smoking"—They Must Be Made to Realize Danger

ALONG the motor highways, in the street cars, in the newspapers and magazines are reproduced alluring illustrations of women enjoying some particular brand of cigarettes. The ladies are advised to smoke either as a means of acquiring a slender figure, or because of the enjoyment afforded.

And being subject to the wile of advertising copy, they have followed the advice.

According to Jay W. Stevens, state fire marshal of California, and executive secretary of the International Association of Fire Chiefs:

"The general use of cigarettes by women has greatly increased the number of fires, usually classified by fire prevention authorities under the head of 'matches-smoking'. Of course, it is impossible to prevent the use of cigarettes, but it is not impossible to educate the public and especially the women to be more careful in the handling and use of cigarettes."

The average American citizen fails to realize the dangers that are co-ordinated with smoking. The Press have related an incident on the round-the-world trip of the Graf Zeppelin, when a passenger secretly smoked a cigarette and took the risk of igniting the airship's highly explosive gas tank.

"Rules are made to be broken," was the only excuse offered.

It is typical of American carelessness and indifference.

The I. A. F. C., with the co-operation of other agencies, carried on an intensive fire prevention campaign in 1927. Mr. Stevens stated:

"After all is said and done, to be wholly successful we must carry the message of fire prevention to each and every individual regardless of his or her station in life. The actual contact work must necessarily, in the final analysis, be performed by the fire department.

"If the efforts of the fire departments are to be successful, a favorable public sentiment must be created. This work the other agencies are equipped to do, in addition to furnishing as they are now doing, technical information for the guidance of fire departments.

"All things considered, there is reason to be optimistic about the situation. Much has been done, not only in reducing the fire waste of the country, but in making the public fire-conscious. The next step is to bring about better co-ordination of the powerful forces that have pioneered the fire prevention cause. There are reasons to believe that this step will be taken very soon."

Egyptian Fire Fighters Meet

Salem, Ill., entertained the Egyptian Fire Fighters Association, and representatives from twenty-six cities in southern Illinois were present.

Chief Albert Herring of Murphysboro, Ill., responded to the address of welcome. The principal address was delivered by John G. Gamber of Evanston, former state fire marshal. He told of a number of instances where human life was sacrificed because of carelessness.

In the afternoon the visitors witnessed a demonstration of foam in extinguishing oil fires. Schools were dismissed early to permit the children to see the demonstration.

Each member of the association pledged that his city would arrange a fire prevention program. The last meeting of the year will be held in Murphysboro, November 20.

Central Station Opened in Falmouth

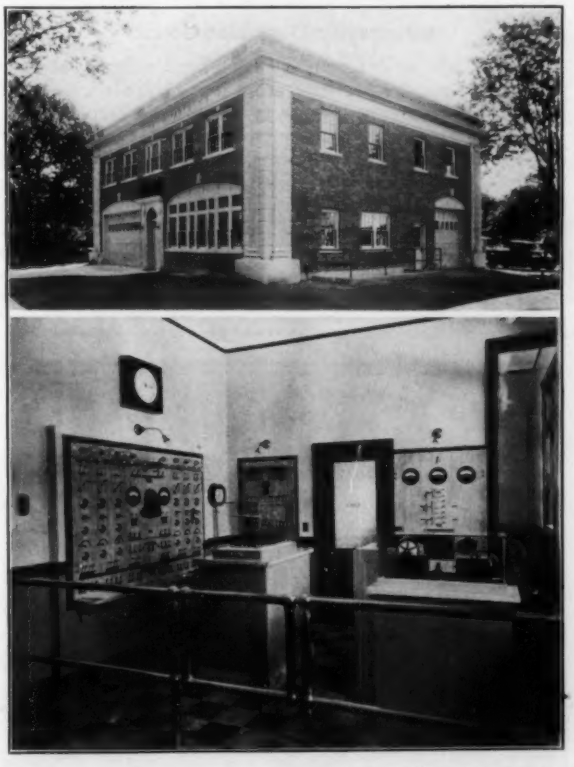
A red brick building trimmed with white and of fireproof construction has been erected in Falmouth, Mass., to serve as the Central Fire Station. It was erected at a cost of $40,000.

On the left, on the ground floor, and extending across the back of the building L-shape is the apparatus room. At the rear are racks for drying hose. This room is entirely cut off from the rest of the building by fire walls.

The main entrance of the building leads to the signal room from which stairs lead to the second floor where the administrative offices, and those of the chief, deputy chief and building commissioner are located.

The signal room is separated from the main lobby by a brass railing. On entering the building one can observe the polished gray Vermont marble switchboards that nearly cover two walls of the room. There is a telephone switchboard from which the operator can plug in simultaneously with the homes of officers and call men to notify them of a fire.

On the second floor are the living quarters including nine bedrooms, baths and showers, and a recreation room



Photographs by Fred. L. Geggatt.

Upper—Exterior of Central Fire Station in Falmouth, Mass. Lower—Signal Room in New Headquarters.

with a kitchenette alcove. The bedrooms are furnished with single beds, a chair and a steel clothes locker.

The fire department has celebrated its thirtieth anniversary. Forty-four volunteers were appointed shortly after the department was formally organized. Night fires in those days must have been a picturesque sight for it was ordered that the chief shall employ a red light, the first assistant chief a green light and the second assistant chief a blue light. The lanterns were waved in accordance with prearranged signals. Ray D. Wells is the present head of the fire department.

New Uniforms for Key West, Fla., Firemen—New uniforms have been ordered for members of the Key West, Fla., fire department.

Confessions of a Fire Fan

(*Continued from page* 928)

Then, when he least expects it, when his resistance is at its lowest ebb, he looks out of the window to see Engine 91 charging past. He tries not to reason why. But at last he opens the window and sniffs. Ninety-one wouldn't come thus far except on a second alarm. Other sirens, speeding gilt and crimson Loreleis, lure him with their seductive songs. He takes up his hat. He'll just run down to the corner and see where it is. Not get into it . . . perish the thought. Just look it over. Stand behind the lines like any other civilian.

Hours later he crawls back to his desk or his wife, smelling of wood-smoke, wet, winded, his clothes a wreck, his eyebrows singed, his throat sore, his knuckles barked . . . and in his heart a sense of exultation.

"Well, we beat it after all!" he whispers." It gave us a stiff fight for a while, but we beat it. And wasn't Smoky Joe Martin his grand old self, the way he swung along that cornice? And Engine 31 . . . what a beating they took before they had it stopped! Guess I'll go down to the fire-house tonight and see the boys."

Geography Does Not Count

It need not be his own boys. The fan is never geographically minded. Away from home, he always drops in casually at engine houses in the town where he happens to be. He examines the apparatus, looks over the alarm telegraph, inquires about the platoon system, discusses the merits of engines, argues the advisability of three-inch hose on first lead-off, and the trend toward siamese connections at every two-alarm fire. He's invited to supper by the captain, and if asked once, remains the night, sitting out the watches before the recorder instrument, or going to bed in the bunk room upstairs.

"Wives are Particularly Obtuse

The problems of firemen are rather similar everywhere; the battle has as much tang on the West coast as the East. And firemen are the same everywhere, the same bluff, hard-fisted knights in helmets, loving the fight for its own sake, and loving the fan because he loves them.

There is something of the same thrill in pulling the hose reel up Main Street in Mount Vernon, Iowa, as there is in riding south on the boulevard with Truck 9 in Chicago; in eating smoke with the seven-man department in Traverse City, Michigan, as in dragging high pressure hose in Lafayette Street, New York.

So the real fan never reforms. Set him down in Greenland, and let an Esquimo in his igloo overturn a whaleoil lamp, and the fan will come charging across the ice with his hat full of snow. When a professional fireman has done his bit, when he has served faithfully a long span of years, he is presented with a watch by the members of his company, hangs up his boots, accepts

There Were Even Fire Fans in Ancient Rome

his pension graciously and goes fishing. Not so the fan. As long as he can totter, as long as his failing ears can pick up the staccato call of the joker alarm, as long as his nostrils can distinguish the haunting aroma of smoke . . . he never retires.

Don't pity the old gentlemen in the beard, struggling into a slicker on the running board of the ladder truck as it rolls along. Pity his wife, instead. And his children. And his grandchildren. They're probably out at the ball game this afternoon and have left him alone an hour or so. And when they get back and find that he's been at it again, they'll be ashamed for him.

Fireproof Match Invented

The Bureau of Standards, Washington, D. C., has developed a fireproof match and a safety cigarette to reduce the fire waste caused by careless smokers.

It was learned that five seconds is the time most frequently taken for lighting cigarettes, ten second for cigars and pipes. The fireproof match was coated with water glass to a point about one-half inch from the head of the match to permit the match to burn for the latter period of time.

The fire protection feature of the cigarette lies in an inch long cigarette tip, lined with water glass, air-excluding sodium silicate. By scientific investigations, the scientists learned that a one and one-quarter inch cigarette stub is the most frequently discarded, and that two-thirds of the smokers will toss aside a stub between one and one and one-half inches long. Laboratory experiments showed that cigarettes had a forty to one fire hazard as compared to cigars.

The fireproof match and the self extinguishing cigarette have been developed as the result of six months study.

Lanham, Md., May Buy Apparatus—Lanham, Md., is considering the purchase of fire apparatus.

Tacoma May Reduce Department Personnel—In order to meet a general budget reduction, the council of Tacoma, Wash., is considering the reduction of the fire department personnel. This may mean that the new fireboat will be forced to remain idle for a year.

Chief Corrigan Presented with Medal—Fire Marshal Michael J. Corrigan of Chicago was presented with the Carter H. Harrison medal for a feat of heroism performed two years ago. When several of his men were trapped in a burning building in March, 1927, Corrigan, then a division marshal, rescued one of them. Other awards were given for meritorious acts by members of the fire department.

THE CLARK OXYGEN CARBON DIOXIDE INHALATOR

No part of your entire equipment is of more importance to you than your Inhalator.

Property that is destroyed can readily be replaced.—LIFE that is lost can never be replaced.

In fire service the saving of life as well as property is part of the game. How many are prompt to criticize if you haven't the right equipment to save both and particularly "Life."

The Clark Inhalator enables you to save life and is particularly well adapted for the new "Seven, five" method of treatment. It's a better Inhalator.

See this "Better" Inhalator at the International Fire Chiefs' Convention Birmingham, Ala.

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The new "DELUGE" COMMUNITY SPECIAL is the last word in township and rural community fire engine equipment. A fire engine especially designed to successfully overcome the many difficult problems associated with or directly pertaining to rural fire hazards. Such conditions as zero weather, snow, mud, sand or dirt roads, blinding rain, cutting sleet, cross lots or plowed fields are readily negotiated by the new "DELUGE" COMMUNITY SPECIAL.

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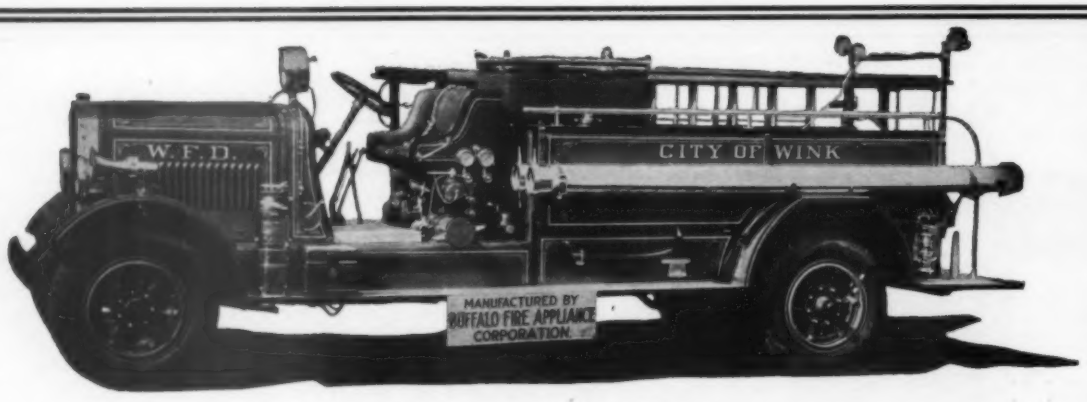
Cuts and description will appear in this publication in the near future.

The Prospect Fire Engine Co.

Prospect, Ohio



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Buffalo Pumpers are the most highly developed in design, construction and engineering standards and are intended for municipality, community and township fire protection.

Buffalo Pumpers are also noted for their efficiency and their great abundance of reserve power. They are pumpers with stamina and speed. All the above have to be credited for bringing great pumping merits for Buffalo Pumpers.

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The Menace of the Sliding Pole

(*Continued from page 924*)

the pole itself has confused even the best of the men and many an accident can be directly attributed to the pole thus changing its character between the two times a certain individual uses it.

The Minor Accident

The failure to brake described above will in most instances be the cause of a major accident. The minor accidents occur in another manner, either by striking the knee or elbow against the side of the hole above or the pole itself in the

Fig. 5

Striking the ground with the feet flat, fracturing os calcis or femur.

act of embracing it or the side of the hole while passing through it. Many a serious laceration has come to our attention from the tearing of the skin on the catch at the center of the top lid of the pole cover. Again the pole mat on the ground comes in for its share of the blame. There have been more sprains of the ankle and knee from the twists off the mat necessary to make the distance from the pole to the apparatus than in our opinion the use of the mat justifies. Indeed many of the houses have long since discarded them for this reason alone.

The Element of Chance—An Additional Cause of Accidents

In addition there enters the element of chance which in all cases and in all walks of life is the cause of many an accident. Any man required to perform any hazardous piece of work may at any time be the victim of an accident. Firemen are required to slide poles daily and nightly under all circumstances and conditions, and no matter how accomplished they become or how ably they may be able to perform the act, certain conditions and the old law of averages are bound to work to the causation of an accident. It is an old adage of railroad switchmen that if they will stick to their job long enough they will be the victims of an accident sooner or later. There will always be railroad accidents, especially to the members of the crews, because railroad work is hazardous work. There will always be accidents to air pilots and air mechanics because their work is hazardous work. The same may be said of construction workers, tunnel and bridge builders, etc., etc. And the same may be said of the man who daily and nightly is required to slide a firepole. Sooner or later some of them will be the victims of an accident, if for no other reason than because the act of pole sliding is a hazardous one. The only peculiar thing that may be said of the pole sliding risk is that it is within the bounds of reason to effect some means of removing the pole and thereby preventing the accident. Railroads, air travel, tunnels, bridges and buildings all have to be built and maintained and we will have to expect accidents to their crews but firepoles may or may not be absolute necessities and if not should be done away with to prevent the ever-present accident which is bound to happen as long as they are there to be used.

The Technique May Determine the Type of Injury

All of the reasons here given should be explanations enough to the fair mind that the pole itself is the essential cause of the accident and not the particular carelessness of the man who slides it. In addition may I offer you a further reason that this is so. This is the understanding the men have in their own minds of the types of injuries which usually result when they are unable to control the speed of their fall. Firemen as well as Department Physicians all know that when a man employs the arm method in his pole slide and fails to control his speed or fails to brake properly he is risking a fracture of the femur or os calcis. This is evident because he will strike the floor on the flat of his foot. If he is employing the leg method and fails to control his speed he is risking a fracture of the bones of the foot or an injury to the maleolus. And this because he strikes the ground with the legs in a twisted position, usually striking on the side of the foot. With all this knowledge in the mind of the fireman, gained from observation and experience, it is certainly evident that no man will risk failure on a pole. An accident of any kind to any fireman affects that fireman in a marked degree and he has full knowledge that the usual pole accident is a bothersome, lengthy and sometimes permanent disability which we all know no one wants.

III.—The Effect of the Accident

Having given you our opinion of the essential cause of these accidents let us go back to the figures before quoted and attempt to analyze them to determine the effect such accidents have. At the outset we are forced to admit that a fire pole accident is virtually the same as any other accident which befalls the fireman in line of duty. In whatever way it affects him, his company or city, the same conditions prevail if he were injured while actually fighting a fire. But the point which is so far unwritten here is the fact that we are considering an accident which, while not actually unnecessary, can in a degree be considered a preventable one and in the face of the figures above one which deserves the serious consideration of this possibility.

For the sake of clarity our figures above will show that since 1922 every pole accident has meant a disability of approximately forty days. All things being equal it is reasonable to expect that this will be a future average and we are therefore justified in concluding that every time a pole accident is reported a disability of the average forty days is to be expected. Now this forty days of disability is essentially the entire subject of this phase of the discussion. This disability has a marked effect on three distinct divisions of the force, the fireman himself, the fireman's company and the city department which pays the bills.

The Effect on the Fireman and His Company

To the fireman himself the accident means more than a mere disability of so many days. Half of the time he is removed from his regular life work and the other half he is robbed of his regular days of leave. A fireman is entitled

Fig. 6

Striking the ground with the feet in a twisted position, fracturing bones of feet or tearing a malleolus (sprain fracture).

to his days of leave and he can hardly enjoy them while lying disabled in a hospital or at his home. He further runs the risk of a prolonged hospitalization or even a partial permanent disability, a thing which no man in any occupation can afford to endure.

To the fireman's company the accident means a shortage of just another man in that company. Averages of possible illness to the other members mean just another absence from that company that the pole accident has affected so that the pole accident has a significance which is greater in this respect than will be first supposed. The company may be crippled to a marked degree and many is the time that fire

companies can not afford to lose any more of their men. Ask any Captain or Lieutenant if this is not true.

The Effect on the City

Now to the city department the effect is most marked. The effect is reckoned in dollars and cents. This may be a selfish way of looking at a fireman's accident but it does give an additional reason why some means should be considered to prevent them. Inasmuch as this article is written for the purpose of calling attention to what might be considered a preventable accident, I believe the reason is justified. A fireman disabled for forty days means approximately $300 the city has spent that it would not have to spend if the man did not have the accident.

In the first place the fireman's pay continues while he lies disabled. If the accident is a major one there is in all probability required the use of an ambulance and an operating room. Hospitalization means hospital beds and other hospital expenses. If it were possible to total all of these items we would find that in addition to the above an expense much in excess of the figure given would be somewhat nearer the actual expenditure. City money spent in the recovery of an accident to a city fireman is money well spent. City money spent in the recovery of an accident which is a possibly preventable one is money extravagantly spent, providing of course such an accident *is* preventable and this thought brings us face to face with an additional problem which may prove more difficult of solution than the one here discussed.

The Next Step In The Matter

If the foregoing discussion has been at all logical it should be certainly worth our while to seriously investigate any of these other known means or substitutes. The thought might well sequel this discussion here for I am sure we can fairly point to the agent itself as being the primary cause of all the trouble.

However, until this is done we are still in possession of the same firepole and as houses are being erected in every city these poles are being subsequently installed primarily because it is the only thing we know which will serve the purpose as well as it does. Some investigation and trial of substitutes should be suggested, however. The result of it would indeed be fruitful, whether it would be to discover and install a better and safer method or to reject them all for the one we have now. Even if it had no more effect than this last mentioned one it would at least serve to reconcile most of as to the possibility that after all they might have to remain as one of the necessary evils in the life of every fireman.

The Round Table

(*Continued from page* 934)

This method has proven very satisfactory because it quickly extinguishes the fire and also because it causes no damage whatever to property.

F. F. Trombley, Chief, Saulte Sainte Marie, Mich.: The method we use is salt. This has proven satisfactory. If the chimney is of good construction, we close all the draughts and let the fire burn out.

I have used extinguishers on bad chimney fires but I don't think that is the proper way of extinguishing a chimney fire as it causes a great deal of interior damage to the wall and may crack the chimney if very hot.

Ed. Donnelly, Mamaroneck, N. Y.: The following methods are used in extinguishing chimney fires: A two and a half gallon extinguisher; a few handfulls of salt; a pail of coal or gravel, or a thirty-five gallon chemical or booster pump. All of the above methods have been satisfactory and do not cause any damage to property.

M. H. McEvoy, Chief, DeKalb, Ill.: The method employed by this department in extinguishing chimney fires is "Sambo," the chemical chimney sweep. This has given wonderful satisfaction as no water is used. One or more boxes of this preparation is thrown into the furnace or stove to put out the fire.

C. T. Copeland, Chief Troy, Ala.: We have used soda and acid solution from small extinguishers on many chimney fires. This has proven satisfactory in practically every instance, and does not damage property.

I consider it best to let chimneys burn out of adjacent property can be protected. If this is done the chimney will not cause any more trouble for some time.

W. G. Norton, Chief, Winona, Minn.: If there is sufficient fire in the stove or heating plant to burn, common salt is used. This will usually extinguish the fire in the chimney.

Geo. H. Donovan, Chief, Urbana, Ohio: Again we have the old familiar topic, "flue fires." I think I can count the number of times water was used on such fires. When an alarm is received, a company is dispatched. Upon reaching their destination ladders are raised and gutters are cleaned. Salt is then put in at the furnace and at the top of the chimney. One man is usually left until he is sure that everything is okay. However, where high wind is blowing, three gallons of chemical, or more if necessary, are used at the top of the chimney and salt is used in the furnace.

In all cases the owner is notified to have the chimney cleaned. The department follows up on this to see that the cleaning is taken care of.

E. F. Henryson, Chief, Elgin, Ill.: We have used salt for a number of years in extinguishing chimney fires. This has given very good results. About ten cents worth of salt is used in dwellings. In apartments a large amount is needed.

W. S. Mason, Chief, Bangor, Me.: We use Kilsoot for extinguishing chimney fires. Chemicals are also used. We are not troubled with damage to property.

Thos. F. Burnes, Chief, Bridgeport, Conn.: If fire is small, we drop a chain down the chimney. This has proven very satisfactory. At times we use chemicals to extinguish the blaze. We do not find that either of these methods cause any damage to property.

E. D. Kenyon, Chief, Turtle Creek, Pa.: Up until last year water was used to extinguish chimney fires. This did quite a bit of damage to property. At the present time we use foam. This is very satisfactory and does not cause nearly as much damage as water.

Chas. D. Schrenk, Chief, Woodbury, N. J.: We use a hand chemical tank. This is very effective and eliminates the damage which water would cause.

J. E. Johnson, Chief, Menomonie, Wis.: We use a chain to extinguish chimney fires. The larger the chimney, the more chain we use. If it is too hot we put chemicals into the chimney. This is done from the botton if possible. We never use water and therefore have not experienced water damage.

Jos. Peralta, Chief, San Leandro, Cal.: We take about twenty pounds of coarse sand and pour it down the chimney. This cleans the soot off and does not do any damage.

John O. Hunt, Chief, East Weymouth, Mass.: We use "Sambo" which is a chemical preparation of salt. When thrown in the stove the gas rising almost instantly deadens the fire and dissolves the soot formation. Once in a great while we are forced to use a two and a half gallon extinguisher.

John L. Ackerman, Chief, Latrobe, Pa.: In my experience I have never known a fire that started from a chimney. A defective flue will sometimes cause a fire and in this case I would suggest that salt be thrown in the furnace. However, chimneys should be kept clear of soot.

J. C. Pierce, Woodstock, Ill.: We use salt and chemicals on chimney fires. Both of these have proven effective and do not cause damage.

H. L. Taylor, Chief, Rome, Ga.: We have very few chimney fires. However when we are called to one, we take a small hand extinguisher and use it from the top of the chimney. This is effective and does not cause damage to property.

C. R. Dilling, Chief, Nanty Glo, Pa.: We use soda or our chemical line. Very often only a hand extinguisher is necessary.

A. G. Dolby, Chief, Oil City, Pa.: We use a chemical called Kilsoot to extinguish chimney fires. This works very well and does not cause damage to property. We do not use water and therefore are not troubled with damage by this means.

Chief of Fire Dept., College, Mo.: All we use to extinguish chimney fires is salt or gravel. Anything that removes the soot is effective.

C. P. Coe, Chief, Tallahassee, Fla.: As a general rule I let the fire in the chimney burn itself out.

R. A. Alexander, Chief, Portsmouth, Va.: We use sulphur, salt or soda and acid extinguishers to extinguish

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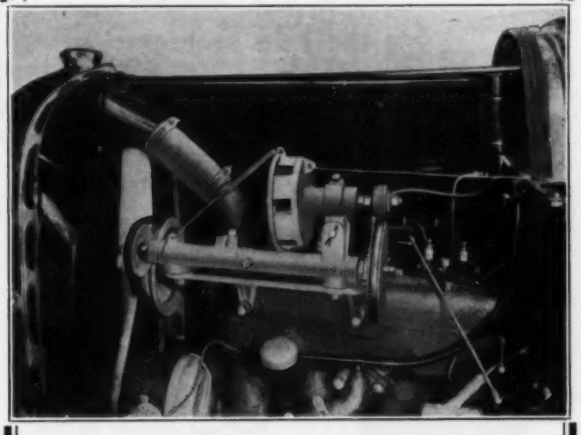

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chimney fires. These methods have proven very satisfactory. Very little damage is done to property.

John C. Heney, Chief, Barre, Vt.: We use soda and acid extinguishers at chimney fires. If these are used right, there is no damage.

Roger Boyle, Chief, Jersey City, N. J.: We use water to extinguish chimney fires. No great damage is done to property by this means.

John Valentour, Chief, Kane, Pa.: We use hand chemical extinguishers at chimney fires. These are very satisfactory and cause very little damage.

Who Should Test the Fire Engine

(*Continued from page* 930)

In many of the smaller towns, the test is advertised in a similar manner to the coming of a circus or a traveling minstrel show. Promptly at the specified hour, about half of the town's population will be at the appointed spot arrayed in their finery waiting to see something spectacular. The novelty of pushing the crowd aside every time it is necessary to take a reading or make some hose adjustment will soon wear off, and of far greater importance is the hazard of the hose breaking loose and injuring some of the crowd.

The body of water from which the pump is to draft should have a bottom that is free from mud and an abundance of foreign material which will act as an abrasive should it be sucked into the pump. The lake or creek should also be of sufficient depth to insure sufficient immersion of the strainer, which is attached to the end of the hard suction. The depth should be such that the top of the strainer will be about two feet beneath the water surface and still be clear of the bottom of the body of water.

Material Necessary for the Test

In addition to the equipment listed previously the following items are needed: if the apparatus to be tested is of 600 gallon capacity or larger, a two-way siamese; smooth bore nozzles of 1, 1¼, 1½, and either a 1⅝ or 1¾-inch nozzle; when a 1000 gallon pumper is tested, a 2-inch nozzle.

A crow bar driven into the ground should be used to secure the nozzles so that they will not get away. Provisions should be made for a tender with gasoline to bring the supply to the test about one hour after the test has started. On the average about thirty-five gallons of gasoline are burned during the standard three-hour test.

Construction of Pitot.

The pitot blade consists of a brass plate of semicircular shape with a knife edge on the straight section as shown in Fig. 1. Around the circumference is soldered a fine copper tube which projects slightly beyond the knife edge. The other end of the tube passes through a brass fitting which is cut with a standard pipe thread. The balance of the pitot can be made from pipe parts as shown in the (Fig. 2) accompanying drawing. An air chamber is put on to steady somewhat the fluctuations of the gauge needle. The pitot gauge is designed to read velocity pressure, and contrary to the popular conception, is not static pressure. In themselves the pitot gauge readings mean nothing, but must be interpreted by means of tables into gallons per minute.

The gauges which are used should not have a pin to hold the needle at zero. It is only by allowing the needle to come to an absolute rest that one can tell if the gauge is recording properly.

The apparatus to be tested should be so placed that the suction side of the pump is nearest to the body of water. If the pumper is to draft from a wooden bridge, do not place the entire weight of the machine on the frame structure—either the front, or better, the rear wheels should be resting on the ground.

Some of the pumpers are so equipped that the cooling water from the engine is discharged through a section of garden hose, and in others it is sent through the exhaust pipe. Should the pump be of the latter type, place a board under the exhaust. The force of the gas and water issuing from the exhaust port will, in three hours time, wear a depression in the road. Where there is a dirt road, the rear wheels should be run up on boards or other material which will enable the driving wheels to get a firm grip on the road after the test is over and the machine is to be returned to quarters. Where this precaution is not provided, it is not uncommon for the rear wheels to cut their way up to the hubs into the soft dirt.

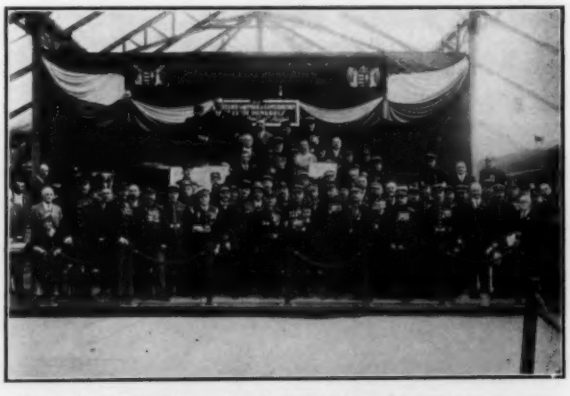
Figuring the Layout.

This is a very simple matter. The gauge reading on the pitot should not be below forty pounds, due to the inaccuracy of the gauge in low readings; and for convenience, it should not be too high. Preferably, the gauge needle should point in the vicinity of sixty to eighty pounds.

Discharge tables for smooth bore nozzles and a table of friction losses in fire hose may be obtained from the pamphlet referred to above, or from charts which a number of the manufacturers issue. Knowing the gauge reading that is desired, one can look up the discharge table and see what size nozzle should be used to get the rated discharge for the pump.

Let us assume that a 750-gallon pumper is to be tested, and that the pitot reading will be about seventy pounds. A 1¾-inch nozzle at this reading will discharge 761 gallons per minute—this is near enough to the desired discharge and therefore a 1¾-inch smooth bore nozzle should be used.

The standard test for new pumpers, as noted previously, requires the discharge of rated capacity at a pressure of 120 pounds per square inch. In other words, the gauge at the engine must show a certain reading



Prominent Foreign Chiefs Attending the International Firemen's Exposition in Paris

Through the courtesy of Edwin D. Moore, former secretary of the Vermont State Firemen's Association, is reproduced the group photograph of foreign chiefs attending the International Firemen's Exposition in Paris, June 27-July 7. Mr. and Mrs. E. D. Moore were the only Americans registered at the exposition. Following the exposition they visited the fire departments of other European cities and were greatly impressed with the fire protection of Venice. Here fireboats are used exclusively, and they are fitted up with appliances generally found on fire apparatus.

which, when the figure for lift is added, will show a net pressure of 120 pounds.

The tables show that for 1¾-inch nozzle to discharge 750 gallons, the pitot should show 68 pounds. Subtracting 68 from 120 pounds leaves 52 pounds to be lost in friction. The next problem is to find the hose layout which will give the required friction loss. Were this quantity of water sent through a single line, the friction loss would be extremely high. For that reason, the discharge is divided into two equal parts by running one line from each side of the pumper and then joining them a short distance from the nozzle by means of a siamese. If no siamese is used, two nozzles of the same diameter will be required, and instead of reading one nozzle, it will be necessary to read two nozzles.

When two lines are used, half of the discharge from the pump is sent through each line. The friction loss per 100 feet of 2½-inch cotton rubber lined hose for a flow of 375 gallons (half of 750) is 33 pounds. A line ,150 feet long, will give a friction loss of 49 pounds which is close enough for the problem. No layout can be computed exactly. The friction loss in smooth, new hose is considerably less than that in old hose, and on this account it may be necessary to make a few trial layouts, after the calculations, in order to find the suitable hose layout.

Readings Affected by Hose Layout

Should the pitot reading be too low and the reading at the engine too high, it is an indication that there is too much hose used. The remedy is to take out a length of hose. On the contrary, if the pitot gauge shows too high a reading and the pressure reading is low, it is caused by not enough hose to build up the proper friction loss, and a length of hose should be inserted.

Sometimes, in order to strike a happy medium, it may be necessary to partially close or throttle the discharge gate on the pumper. This should only be used as a last resort, as the gates have a tendency to open up during the course of test, and the reading will fluctuate from the desired average.

Taking the Pitot Reading.

The air chamber of the pitot should be grasped in one hand the section near the blade with one finger and thumb of the other; the remaining fingers of that hand grasp the nozzle so as to steady the pitot. The blade is held parallel to the nozzle to eliminate splashing, and the end of the blade is inserted in the center of the stream and at a distance away from the nozzle of not less than half the diameter of the nozzle; if held closer to the nozzle the reading will be too high. The pitot should be held in the stream for a few seconds to allow the air chamber to fill up before the reading is taken. It is very necessary for all joints in the pitot to be tight. A small leak at a coupling gives too low a reading.

Bathing Beauty Selected at Firemen's Picnic

Thirty-four girls contested for prizes in the bathing beauty contest that was part of the twenty-first annual picnic of he New Orleans Fire Department at Pontchartrain Beach. Each company was represented by a girl in the contest, and a raised stand was erected on which the girls paraded before the judges. The photograph shows the winner of the contest and Engine Company No. 14 which she represented.

Observations at the Engine.

At the engine the following readings are necessary: pressure gauge should be read to the nearest pound, and the speed of the pump or engine should be taken every ten minutes or whenever the readings fluctuate from the apparent average. The shaft of the counter used for taking the readings should be inserted in the countersunk place on the pump motor; on some machines, it is more convenient to take the motor speed. Note the counter reading before the instrument is inserted in the rotor, hold the counter there for exactly a minute and note the new reading. By subtracting the two, the revolutions per minute will be found. About five readings should be taken; readings above and below the apparent average should be discarded. It is only necessary to take this number of readings at the beginning of the test and whenever the motor speed has changed appreciably and the motor can not be brought back to its normal speed.

Recording the Readings.

A record should be kept of the readings of the pump pressure, and the nozzle reading taken every five minutes, and of the motor or pump speed taken every ten minutes. A new pumper is tested or rated for capacity at the pressure of 120 pounds for two continuous hours. Then it is followed by two pressure tests of one-half hour each one, one-half capacity at a pressure of 200 pounds and the other at one-third capacity at 250 pounds.

It will be necessary to change the hose layouts for each of the pressure tests, although in some cases the layout of the second test may be retained and the discharge gate throttled.

Calculating the Results.

After the test the readings should be averaged. From the discharge tables, the pitot readings can be converted into gallons of water discharged per minute. The vertical distance of the water surface, from which the pump is drafting, to the center of the line of the suction port of the pump will give the vertical lift in feet. A good way to get this distance is to lower a weight attached to a cord until the weight just touches the water, and note that the point where the cord reaches the center of the suction port. This distance is measured in feet. Roughly, one-half of the distance in feet is equivalent to the lift in pounds, and this correction for lift should be added to the pump pressure reading. Most manufacturers state their guarantees in terms of lift not over ten feet, and for this reason it is best not to draft water from a greater distance.

Knowing the pump r.p.m. to get the engine r.p.m. multiply this figure by the gear ratio from engine to pump and vice versa. On centrifugal pumps, the engine reading is multiplied by the gear ratio to obtain the pump speed, since the centrifugal pumps operate at a speed greater than that of the motor.

Calculations for Slip.

It is not practical to calculate slip for centrifugal type pumps. On the other types, divide the discharge in gallons by the r.p.m. of the pump. This will give the actual displacement per revolution. The manufac-

Strong Powerful Streams efficiently controlled by *ONE MAN* and the

EASTMAN DELUGE GUN

The *"Masterpiece"* of Nozzles!

Combines benefits of wagon pipe and deluge set. Quickly attached to hose. Can be placed and easily operated by one man in any direction anywhere hose can be laid. Large water-ways. Easy working under all pressures. Can be used as deck pipe. The product of a quarter century's experience designing and building quality nozzle equipment. This new and improved Eastman Deluge Gun is far in advance of all other nozzle equipment in the solidarity, distance and effectiveness of the streams produced. Every department should have them.

May we send you complete information?

SAMUEL EASTMAN CO.

Concord, New Hampshire

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The Eastman line also in-c'udes 2-3-4 way and Jumbo deluge sets, high pressure platforms, tripod and other type hose holders, plain and shut-off nozzles, play pipes, siamese connections, hydrant gates, etc.

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COMPLETE WITH DRIVE PULLEY FAN AND BRACKET

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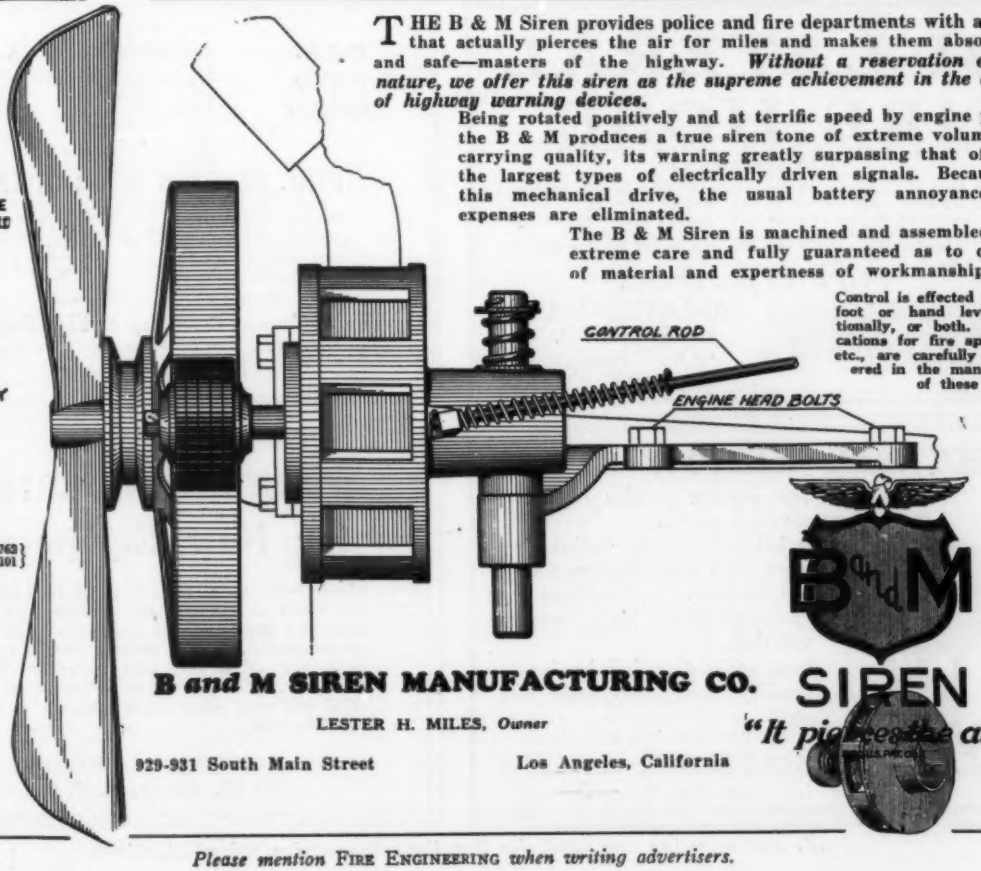

THE B & M Siren provides police and fire departments with a voice that actually pierces the air for miles and makes them absolute—and safe—masters of the highway. ***Without a reservation of any nature, we offer this siren as the supreme achievement in the design of highway warning devices.***

Being rotated positively and at terrific speed by engine power, the B & M produces a true siren tone of extreme volume and carrying quality, its warning greatly surpassing that of even the largest types of electrically driven signals. Because of this mechanical drive, the usual battery annoyance and expenses are eliminated.

The B & M Siren is machined and assembled with extreme care and fully guaranteed as to quality of material and expertness of workmanship.

Control is effected through foot or hand levers optionally, or both. Specifications for fire apparatus, etc., are carefully considered in the manufacture of these signals.

B and M SIREN

B *and* M SIREN MANUFACTURING CO.

LESTER H. MILES, *Owner*

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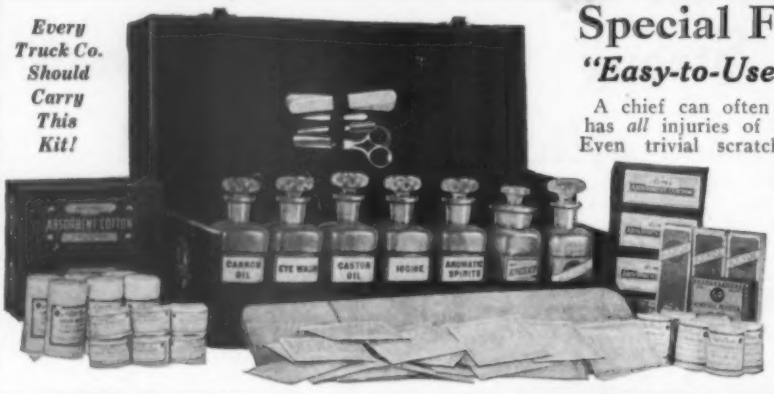
SIREN

"It pierces the air"

Every Truck Co. Should Carry This Kit!



Special Fire Department *"Easy-to-Use"* First Aid Kit

A chief can often prevent serious consequences if he has *all* injuries of his men given *immediate* attention. Even trivial scratches many times result in long illness and death, so every chief should have the apparatus of every truck company carry this special fire department complete first aid kit for quick use.

Send Now for Full Details!

If you get to the Birmingham Convention be sure to see this kit at Exhibit Booth of *American La France & Foamite Corp.*

Manufactured by

National Safety First Aid Kit Co., Incorporated

137 WEST 25th ST., NEW YORK CITY

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SIGNAL ENGINEERING, Inc.

Protective Signaling Systems

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Baker Fabric

A mass-woven jacketed hose with a reinforced rubber lining, —mass-woven to equalize the stress on all strands and eliminate writhing under pressure. Write for details.

MANUFACTURED EXCLUSIVELY BY

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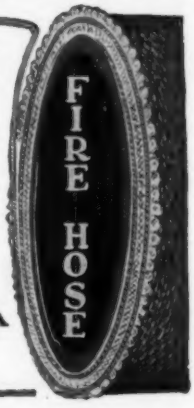

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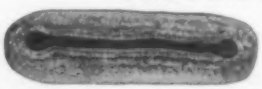
"IT'S DIFFERENT"

Fire hose of every description, make or kind has to be stored flattened ninety-nine percent of the time.
The flattening of Bi-Lateral Hose curves the rubber in the space that is free from the jacket.
Hose manufactured the old way compresses and creases the rubber when it is flattened.

"THAT'S THE DIFFERENCE"



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Quick-Acting Reliable

Anderson-Hale Improved

FIRE STATION DOOR OPENERS

Over 1,300 sets of Anderson-Hale Fire Station Door Openers are in successful use. They provide simple, durable, quick-acting doors that open inward. No obstruction to sidewalk. Attractive in appearance, cannot sag, closes tight, excludes cold, gives clear opening.
Opens from driver's seat or from floor. Many repeat orders from users.

Write for complete information.

The Anderson Coupling & Fire Supply Co.
Mfrs. Motor Fire Equipment and Fire Supplies
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Siren with Storm Hood

The greatest possible capacity per horse power.
It has won out over others in more than one hundred competitive tests.
Protected from birds, storm and sleet.
Runs entirely on ball bearings.
Double tone, (Two sirens in one).

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please write us and we shall be glad to have the right manufacturers provide you with complete specifications and prices for your consideration. This service won't cost a cent nor place you under any obligation whatever. We just want to cooperate both with you and with manufacturers in every possible way.

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turers furnish the theoretical or nominal displacement.

$$\frac{\text{Nom. displacement} - \text{act. displacement}}{\text{Nominal displacement}} = \% \text{ slip}$$

Testing Old Apparatus.

In testing apparatus now in service it is only necessary to test the pumpers for capacity at 100 pounds pressure for twenty minutes, taking readings every minute, and to run the pressure tests for ten minutes.

Some chiefs who believe that their pumpers are in good operating conditions are surprised at the poor showings made at these tests. In one case the company officers sung the praises of their pumper which in spite of its age could, they claimed, still deliver 100 per cent of its rated capacity. The test revealed the true state of affairs—it was exceedingly difficult to obtain 50 per cent of its rated capacity.

The chief should test all the pumpers in his department at regular intervals so that any mechanical defect may be detected. The tests and calculations for determining the pumper's efficiency are not difficult, and special apparatus needed is not at all costly.

Note should be made of any faults of construction, such as clutch slipping, absence of locks or stops for control levers, inadequate gasoline or lubricating oil supply, inaccessibility of parts, magneto and sparking circuits not waterproof, etc. The feed of lubricating oil is especially important in an automobile pump, where many parts are enclosed or not quickly accessible, and should be carefully looked into by the person making the test.

Birmingham—Its Fire Department

(*Continued from page* 918)

being used. The estimated population July 1, 1929, was 291,000, based on the number of names in the city directory.

The principal products of the district are coal, iron and steel and their products; cement, cast iron pipe, chemicals, wood products, coke, textiles and cotton gins with a large number of miscellaneous products. The list of manufactured products numbers more than 2,000 made at 879 factories and mines.

Nine trunk railway lines operating in 16 directions, furnish transportation for passenger and freight traffic and the Warrior River, 17 miles from the city, and connected with it by a railroad owned by the Federal government, affords water transportation to the Gulf of Mexico and thence to the markets of the world. The barge service on the river is operated by the Federal government.

Figures collected and tabulated by the Chamber of Commerce show that Birmingham has an altitude of 600.6 to 1,045 feet above sea level; 51.14 inches of rainfall average annually, mean temperature, 1928, 62.5; 28 banks with $7,500,000 capital; 43 hotels with 3,500 rooms, 92 passenger trains arriving and departing every 24 hours; 191 white and 184 negro churches; 280 policemen; 176.6 miles of electric street railway; 35 parks and playgrounds with 885.26 acres; 768.85 miles of water mains; 555.5 miles of sidewalks; 275.62 miles of paved streets; 123.57 miles of storm sewers and 421.94 miles of sanitary sewers.

The Water Supply

The water supply pumped through Red Mountain from the Cahaba River, six miles south of the city, is pronounced absolutely pure. Dairy and food laws and their rigid enforcement assure pure foods with the result that typhoid fever has been all but eliminated, less than a dozen cases being reported in any years in the last five.

The city and county health boards are combined and under the direction of one man who has held the office for more than a dozen years and health conditions in both city and county are said to be as good as those in any other community in the United States.

Extreme weather changes are rare, the thermometer seldom registering below 20 degrees, and in summer ranges above 90 only for short periods. The high elevation and the mountainous topography give the city a dry atmosphere so that the hottest days in summer permit of outdoor work or exercise without fear of prostration or discomfort.

Birmingham's public school system ranks with the best in the United States. Three high schools for white children and one for negroes and 35 elementary for white and more than a dozen for negroes provide facilities for 55,000 children enrolled while the teaching force numbers 1,425 persons.

Building operations in Birmingham have averaged around $20,000,000 a year since 1922.

These are some of the high spots in the story of Birmingham which has grown from an old field to a city of nearly 300,000 population in less than 60 years.

Electricians To Meet In Denver

At the convention of the International Association of Municipal Electricians held in Boston, Mass., it was voted to hold the 1930 convention in Denver. The committee named to plan for this gathering are already at work. The executive committee, all residents of Denver, consists of Reuben W. Hershey, manager of safety; John F. Healy, chief of fire department; Fred R. Reed, chief of police department; William E. Guthner, secretary of fire department; L. A. Barley, chief engineer, Mountain States Inspection Bureau, and Julius Pearse, well known Denver fire apparatus representative.

Fireman Killed By Express Train

Clifford Tefft, twenty-four years old, driver of the only piece of fire apparatus in Madison, Conn., was instantly killed on September 30 when the fire apparatus was struck by "The Quaker," a fast express train from Boston, traveling at sixty miles an hour.

Just before the accident Tefft had attached the hose line to a hydrant on the west side of the track and was laying in to reach the barn across the track. Tefft had sent a bus driver to notify the man in charge of the railroad tower, four hundred feet from the crash, that a hose line was being strung across the track.

According to testimony presented to a grand jury at Madison, the driver of the bus went to the tower to notify the man there but the person who was supposed to be at the tower could not be located. The tower man was later found watching the fire. The crash occurred before the bus driver could reach the railroad signal.

The fire apparatus was completely demolished. It was dragged with Tefft's body underneath for more than three thousand feet by the train. The apparatus was in the center of the track at the time of the accident.

Mr. Tefft was an electrical contractor and radio merchant and was a member of the volunteer company for many years. He is survived by his widow and three children, the oldest of which is five years old.

T. F. MAGNER.

Firemen Instructed in Use of Revolver—Captain A. H. Hardy of Los Angeles has been giving instruction in the use of the revolver to members of the Cincinnati, Ohio, fire department. Some time ago the city decided that the firemen should have police powers and be allowed to carry firearms. Capt. Hardy will give similar instruction at Omaha, Neb., Denver, Col., and Salt Lake City, Utah.

Extinguisher Shown at Air Races

Every day during the Aviation Race Meet at Cleveland, Ohio, the Du-Gas Fire Extinguishing Corporation demonstrated the value of DuGas dry powder extinguisher in extinguishing oil fires. A pit fourteen by fourteen feet was dug and filled with gasoline and oil. The fire was extinguished in six seconds.

The same equipment was tested at Roosevelt Field, Mineola, L. I., and an order placed for the equipment immediately following the exhibition.

The equipment consists of ten-gallon metal cylinders filled with the powder and a tank of compressed gas which forces the powder from the tank, through the hose line, and on to the fire.

Scenes of the Fire Test in Cleveland
Upper, the start of the fire at the Aviation Race Meet; center, extinguishing the oil and gas fire with the use of the DuGas extinguisher; lower, the fire almost entirely out.

One advantage claimed for this extinguisher is that the line could be shut off at any time without spoiling the balance of the material in the tank.

The powder is insoluble in water and will not clog the hose line. If a quantity of the powder is put in a container later filled with water, the powder can be removed, absolutely dry.

Test fires of pyroxylin lacquer, acetone, alcohol, ether and Duco have been extinguished successfully with this dry powder extinguisher. Because there is no moisture in the tank, there is no danger of the extinguisher freezing in cold weather.

Memphis, Tenn., to Erect Fire House—A new fire station will be erected in Memphis, Tenn., for $14,000.

Nashville Attempts to Lower Losses—A fire prevention meeting has been held in Nashville, Tenn., to attempt to lower the present fire loss which is considered high.

Deputy Chief Worth, of N. Y., Retired

Edward J. Worth, deputy chief of the New York Fire Department in charge of the Marine Division, has been retired from the service after forty-one years' service.

He succeeded Chief John Kenlon as head of the marine branch when Chief Kenlon was promoted eighteen years ago to head of the fire department.

As battalion chief he was assigned to the third and fifth battalions. He won the Stephenson medal for discipline in 1904. His name appears four times on the roll of merit, once gaining the department medal. He was detailed as one of the faculty at the Fire College and instructed in general fire fighting, specializing in high pressure and high tensioned electric fires.

As commander of the New York's fleet of ten fireboats, Chief Worth has fought some of the most hazardous harbor and pier fires. He holds a mariner's license as well. During the World War he was on duty both day and night to safeguard the New York harbor, which was then filled with ships containing supplies, ammunition and men bound overseas for the American Expeditionary Forces.

For some time Chief Worth has been failing in health. He was given a farewell ovation when he appeared officially for the last time at his headquarters at the Battery. A brief tribute was paid to him by his successor, Deputy Chief John J. McElligott, who has been directing the operation of the fireboats during the prolonged illness of Chief Worth. The retiring chief was born in the Greenwich Village section of the city, sixty-seven years ago. He and Chief Kenlon are close personal friends of long standing.

Fire Chief Must Be Showman As Well

Chief Albert Herring, of Murphysboro, Ill., has discovered a new way to teach fire prevention, and it is a scheme that is sure to register with the school children.

On one of his visits, he noticed a man-size monkey in the office of a utility official. Like a famous cartoon of former days, when it came to brains, the monkey had "nix," but as a substitute possessed a ¼-h.p. electric motor. Chief Herring borrowed this piece of stagecraft and placed it on public exhibition. To the boy or girl who writes the best twenty-word fire prevention slogan, after observing the exhibit, the chief will award $2.50 in gold.

Some time ago he made good use of a human skull in driving home to school children the value of fire prevention in conserving human lives. It is difficult to estimate just what Chief Herring will do next in his effort to reduce fire losses, but he is demonstrating, nevertheless, that a fire chief must be a good showman as well when dealing with the public.

Salvage Corps Association to Meet

Birmingham, Ala., is preparing a royal welcome for chiefs who will attend the 57th Annual Convention of the International Association of Fire Chiefs. The program promises both practical and entertaining features and there should be a large attendance.

The chiefs and superintendents of the Salvage Corps Officers Association of the United States and Canada will hold their annual convention in connection with the fire chiefs at Birmingham.

John C. Egner, Chief of the Kansas City Fire Patrols, and President of the Salvage Corps Officers Association, is very anxious that every Salvage Corps in the United States and Canada be represented at Birmingham this year.

Frank C. McAuliffe, chief of the Chicago Fire Patrols is vice-president of the Fire Patrol Association and John Ashmead, engineer with the Phoenix Insurance Company, Hartford, Conn., is secretary. The Fire Patrol officers program will be arranged so as to permit their members to attend the regular sessions of the International Fire Chiefs' Association. The convention starts October 22 and ends October 25, The Hotel Tutweiler will be the convention headquarters.

Santa Barbara Awards Fire Alarm Contract—The Gamewell Company has received an order from Santa Barbara for the installment of new fire alarm boxes.

Governors Speak to Ohio Fire Marshals—Governor Cooper of Ohio and Governor Conley of West Virginia addressed the conference of Ohio State Fire Marshals held at Columbus. It was reported that thirty-seven convictions for arson in the state were brought about through the efforts of the State Fire Marshals' division during the last nine months.

PERFORMANCE COUNTS

The New Instant Extinguisher
(ANTI-FREEZE)

1¾ gal. "INSTANT"

Under tests at Underwriters' Laboratories this new extinguisher put out in nine seconds a fire which requires from 25 to 35 seconds with other type extinguishers.

It not only puts out any kind of a fire in a minimum of time, but does not support combustion afterwards.

In actual demonstrations it is surpassing all competition through superior performance.

Research chemists and fire protection engineers everywhere are amazed at its action and thorough extinguishing qualities.

Large organizations everywhere, where fire hazards are a vital factor, are rapidly standardizing on the new "Instant" extinguisher.

Here's why:

1. **ANTI-FREEZE**
   Operates efficiently at 40 degrees below zero.
2. **WOOD AND GENERAL FIRES**
   Instantly extinguishes wood and general fires formerly calling for Soda-Acid or Foam.
3. **GAS, OIL, PAINT**
   Extinguishes fires in gasoline, oil, paint, kerosene and grease.

Approved by Underwriters' Laboratories

Write for complete details on the "Instant".

THE FYR-FYTER CO.,
1926 Fyr-Fyter Bldg.,
Dayton, Ohio.

Newest Designs ***Highest Quality***

Specializing in badges and insignia equipment for every fire department need, the EVERSON-ROSS line, known for its fine quality of materials and workmanship, offers a large, up-to-date selection to suit the most discriminating taste. Before you buy—

Write for our Fire Department Badge Catalog No. 32.

EVERSON-ROSS CO.
88 Chambers Street, New York

The Warning Shriek of a Siren!

A Flashing Red Light!
—And Traffic Makes Way for the Fire Department

Down the street rushes the fire department. Traffic must stop—*and it does.* The streets must be cleared—*and they are.* For the Harrington-Seaberg Signal has sounded the warning with its shrill siren blast and flashing red "STOP" light.

Are the congested areas in your city equipped with Harrington-Seaberg Warning Signals? Cities of every size the country over find them incomparable for those quick-action moments that come so unexpectedly.

Sturdy, faultless construction is your guarantee of dependability and durability. Write for descriptive literature.

Our Engineering Staff will be glad to offer suggestions for the solution of your traffic problems.

We also manufacture automatic and hand operated time limit switches to use with the traffic warning signals. Shall we send you detailed information?

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UNIVERSAL REVOLVING TURRET PIPE

The new portable model is such an outstanding advance in nozzle equipment that every fire chief in the country should make them standard equipment for their departments.

That's saying a lot, but the statement is justified by the remarkably efficient design, excellence of workmanship and quality of materials in this new model.

Can be used equally effective on apparatus, ground, roofs of buildings and any place a hose line can be carried. Easily carried and quickly put in operation and requires no fireman to hold it while the stream is playing at any angle.

These new models already purchased by chiefs all over the country such as Waterbury, Conn.; Charleston, W. Va.; Providence, R. I.; Dayton, Ohio; Worcester, Mass.; Kansas City, Mo.; Danbury, Mass.; Mankato, Minn. and the City of Boston, Mass.

New Portable Model

You, too, should have this new model turret pipe, so specify them on new apparatus, and order them now for general use. Notify us and we will send you one on trial. It must be seen in action to be appreciated.

Complete Information on Request!

Supporting legs folded when on apparatus.

Brackets on board which carry the pipe on apparatus.

Manufactured by J. M. BAKER PATTERN CO.
FIRE DEPARTMENT EQUIPMENT & SUPPLIES
114 WEST EXCHANGE ST., PROVIDENCE, R. I.

Always ready for instant use.

For Personal Safety use

DON'TFEAR

Smoke and Fume Respirators

Positive protection against smoke, fumes and gases.

Price $5, Goggles $1 extra; Canisters 50 cents

Send for catalogue.

Don'tfear Mask Co.

654 Madison Avenue, New York, N. Y.

EDDY
Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience go into their manufacture and they embody valuable and exclusive features.

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EDDY VALVE CO.
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James B. Clow & Sons, Chicago Agents

LARKIN Fire Department Supplies

in Service Wherever Fires Are Fought

Our general line of equipment includes every fire department supply of merit.

Larkin shut off nozzles alone are in service in over 5,000 fire departments in U. S. and Canada.

Give us an opportunity of quoting on your next requirements. Let us send you our general catalog.

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Established 1898 DAYTON, OHIO

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FIREMEN'S UNIFORMS

Thoroughly tailored of especially selected fabrics. Uniforms that look well, wear well and that will give entirely satisfactory service.

Reed's Uniforms are most economical because they represent full value for the amount expended.

Write for catalog and prices.

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of every description stronger than lead and non-corrosive. Used by departments throughout the country.

Chemical Tanks and Lally Quick Opening and Self-packing Top for Chemical Tanks

Lally Improved Fire Hose Couplings, Fire Extinguishers and Charges, Fire Hose and Fire Department Supplies in General

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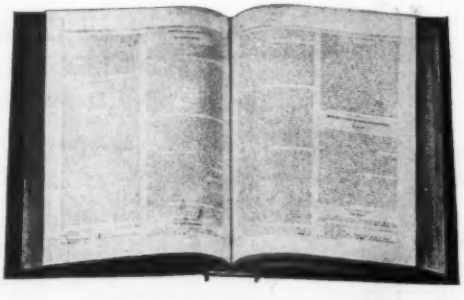

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215-217 Beach 122 St., Rockaway Park, N. Y.

PROPOSED IMPROVEMENTS

Eldrige, Sonoma Co., Cal.—Purchase of a quadruple combination car for Sonoma State Home has been recommended by Fire Chiefs W. E. Muenter of Santa Rosa and C. L. Otterson of Napa, to State Fire Marshal Jay Stevens.

Ottawa, Putnam Co., Ohio.—Village council voted in favor of expending $12,000 for purchase of either two small fire trucks or one large truck, as stated in reports.

Williamstown, Wood Co., W. Va.—The installation of a fire alarm system is being considered, according to reports.

Wanted
Fire Apparatus Salesman

Fire Apparatus Salesman wanted for Ohio, Western Pennyslvania, Virginia, Maryland, Delaware and the New England States.
Sanford Motor Truck Co.
10-16 Syracuse, New York

Atwater, Portage Co., Ohio.—Reports sate that following a recent large fire, action has been taken to organize a volunteer fire department and purchase suitable equipment for same.

Oceanside, San Diego Co., Cal.—Plans are being made for proposed combination fire and police station.

West Berlin, Camden Co., N. J.—The erection of proposed $23,000 fire station for West Berlin Independent Fire Company is being considered. John H. Carberry, Chief.

Iowa City, Johnson Co., Iowa.—Committee on Fire and Water have recommended to Council the purchase of a service truck and a 750 gal. pumper, according to reports. W. L. Bywater, Chairman of Committee.

Wichita, Sedgwick Co., Kan.—City purchased site on Water Street for fire station. Estimated cost is $75,000.

Newburgh, Orange Co., N. Y.—Reports state that establishment of a fire department in the Township of Newburgh is being considered.

Greene, Eureka Northwestern Manager

Announcement of the appointment of J. W. Greene as northwestern manager of the Eureka Fire Hose Manufacturing Company, has just been made by J. H. Green, vice-president of that organization.

With headquarters at 1575-21 Melrose Avenue, Seattle, Wash., Mr. Greene will cover the territory embracing Washington, Oregon, Idaho and Alaska.

Sets 13 Fires to Play "Hero" Role

Thirteen small fires were started in the Hotel St. George, Brooklyn, N. Y., by a hotel detective who wished to play the part of a hero for a while. According to Fire Marshal Brophy, the detective is a typical "alcoholic pyromaniac."

Four trifling blazes were discovered one day, and in each case the detective played an important part in extinguishing the blazes. He also made frequent trips to his room for "refreshments."

Throughout the night representatives of the police and fire departments questioned the two hundred hotel employees. The hotel detective finally confessed to the crimes. He said that the fires were started while under the influence of liquor. After drinking the liquor he conceived the idea of winning fame by becoming a fire hero. He went to a closet on the sixth floor and set fire to newspapers on a shelf. A night clerk informed him of the blaze and the detective rushed to the place to extinguish it. The procedure was repeated a number of times.

When the investigation started, the detective again grew restless and seven small fires were started within two hours. They were fought by hotel employees and two firmen in civilian clothes. None of the hotel's 1,400 guests learned of the fires which were so small that calls were not sent for apparatus.

Assistant Chief of Des Moines Dead

Warren Taylor, first assistant chief of Des Moines, Ia., and a member of the fire department for nearly thirty-seven years, died at the Lutheran Hospital from heart disease. He was 63 years old and has been in the hospital for ten weeks. Most of the time he was under the influence of heart stimulants.

Fire officials attribute his death to an accident when he fell through an open walk at a fire October14, 1928, and he was forced to remain in the hospital until December 26 of that year.

Chief Taylor joined the department November 28, 1892, and was promoted to captain two years later. On May 1, 1896, he was named assistant chief and he has held that title ever since.

He was born in Des Moines and studied at Drake University. He was at one time director of the East Des Moines Club, past master of the Home Lodge of Masons, and a member of the Odd Fellows, Shrine and Mutual Protection Association of the fire department.

He is survived by his widow, two daughters and a son, all of Des Moines.

Negroes Ask for Own Fire Unit

Negro residents of Pasadena, Cal., have petitioned the city manager and city directors for the formation of a Negro fire company and for a fire house in a stipulated section of the city.

According to R. V. Orbison, city manager, the request is not a new one for a similar petition had been submitted some time ago. He stated that if the Negro population were centered in one district it might be possible to locate an engine company at that point and have it manned by their own people.

CONVENTION DATES

Oct. 15-17—RAILWAY FIRE PROTECTION ASSOCIATION. Annual Meeting, Toronto, Can., Secretary-Treasurer, R. R. Hackett, Baltimore & Ohio Railroad, Baltimore, Md.

Oct. 21—SOUTHEASTERN FIRE CHIEFS ASSOCIATION. 2nd Annual Convention, Tutweiler Hotel, Birmingham, Ala. Secretary, Chief H. E. Whitener, Hickory, N. C.

Oct. 22-25—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 57th Annal Convention, Hotel Tutweiler, Birmingham, Ala. Exhibits City Auditorium. Recording Secretary, Chief James J. Mulcahey, Yonkers, N. Y.; Executive Secretary, Jay W. Stevens, 113 Merchants Exchange Bldg., San Francisco, Cal.; Chairman, Exhibit Committee, Chief Selden R. Allen, Brookline, Mass.

May 12, week of, 1930—NATIONAL FIRE PROTECTION ASSOCIATION. 34th Annual Meeting, Atlantic City, N. J. 1931 Convention probably to be held in Toronto, Can. Managing Director, Franklin H. Wentworth, 60 Batterymarch St., Boston, Mass.

May 14, 1930—DEL-MAR-VA. VOLUNTEER FIREMEN'S ASSOCIATION. 1st Annual Convention, Cambridge, Md. Secretary, J. Emory Parks, Cambridge, Md.

June, 1930—EASTERN ASSOCIATION OF FIRE CHIEFS. 3rd Annual Convention, Baltimore, Md. (Exact date to be decided later.) Secretary, Ex-Chief T. Howell Johnson, Room 602, Chamber of Commerce Bldg., Newark, N. J.

May 26-29, 1930—KANSAS STATE ASSOCIATION OF FIRE CHIEFS, STATE FIREMEN'S ASSOCIATION and FIRE SCHOOL. Respectively, 14th, and 43rd Annual Convention and 2nd Annual Fire School, Salina, Kan. Secretary, Chief K. D. Doyle, Wamego, Kan. Secretary Firemen's Short Course Committee, E. J. Stewart, Kansas Insp. Bureau, 701 Jackson St., Topeka, Kan.

Sept. 24-25, 1930—MISSOURI STATE FIREMEN'S ASSOCIATION. Annual Convention, Trenton, Mo. Secretary-treasurer, M. J. Mulvoy, St. Louis, 3500 S. Grand Boulevard, St. Louis.

Statement of Ownership

Statement of the ownership, management, circulation, etc., required by the Act of Congress of August 24, 1912, of FIRE ENGINEERING, published bi-weekly at New York, New York, October 1, 1929.

State of New York, County of New York, ss.:

Before me, a Notary Public in and for the state and county aforesaid, personally appeared I. H. Case, who, having been duly sworn according to law, deposes and says that he is the General Manager of FIRE ENGINEERING and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of Congress of August 24, 1912, embodied in section 443, Postal Laws and Regulations, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and general manager are:

Publisher, Case-Shepperd-Mann Publishing Corporation, 225 West 34th Street, New York City.

Editor—Robert H. Lockwood, 225 W. 34th Street, New York City.

Managing Editor—Fred Shepperd, 225 W. 34th Street, New York City.

General Manager—I. H. Case, 225 W. 34th Street, New York City.

2. That the owners are:

Case-Shepperd-Mann Publishing Corporation, 225 W. 34th Street, New York City.

I. H. Case, 225 W. 34th Street, New York City.

Fred Shepperd, 225 W. 34th Street, New York City.

Karl M. Mann, 225 W. 34th Street, New York City.

Robert H. Lockwood, 225 W. 34th Street, New York City.

3. That the known bondholders, mortgagees, and other security holders, owning or holding 1 per cent, or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

I. H. CASE.
General Manager.

Sworn to and subscribed before me this 25th day of September, 1929.
(Seal) LEON BLEECKER.
(My commission expires March 30, 1931.)

FALSE ALARMS

WELL WORTH IT

Fogarty was up against it as far as marriage was concerned. What should have been a rosy road developed into a trouble-strewn one. That is why he became interested when some one at the station read out loud the following item from a newspaper:

"In certain parts of India a wife can be bought for two dollars."

"That's perfectly awful," said another member.

"Oh, I don't know," remarked Fogarty, "a good wife is worth that much."

A rolling pin was the original night club.

PROPERLY DIRECTED

A very fussy guest who believed that she did not receive the proper attention from a hotel porter went up to the manager and said:

"I want that porter discharged."

"I'm sorry, madam," replied the manager, "but you'll have to see the fire department."

A girl can always tell when she's in love. And she generally does.

A THOROUGH TEST

"Hey, Mike! I wish you'd taste this powder and tell me what it tastes like."

"Phew," shouted Mike, spitting out the powder that he had placed on his tongue. "It tasted like bicarbonate of soda."

"That's what I told Murphy, but he insists that it is rat poison."

INDIVIDUAL SHOW

The department glee club was practicing for the annual show. MacGregor had received some musical education before he entered the service and he considered himself far superior to the other members of the musical unit. Even the others noticed it.

"Mac considers himself a most exclusive person, doesn't he?"

"Yeh. He even sings duets alone."

A baby was found in a telephone booth. There is nothing like starting young when you want a number.

HEARD TOO OFTEN

Company 17 out in the suburbs had more time to kill than did the units in more populated sections. So the men took to various forms of recreation. One commenced to study saxophone playing, and in leisure moments one could hear the continual tooting of the musician.

"Hey you," shouted a fellow fireman, one day, "don't you know that there is a sick person around here? Cut out that racket."

"Yeah! Who's sick?" asked the would-be Rudy Vallee.

"I am—sick of hearing that damned sax."

VERY DEPRESSING

According to a new department rule, the off-shift had to report at the Fire Department School for an hour. But Mac held back from the crowd.

"I'm not going to class today."

"Why?"

"I don't feel well."

"Where don't you feel well?"

"In class."

A hitch hiker is a man who will share your last drop of gasoline with you if you are going his way.

STORY FIRST

Collins kept going to the doctor's office long after his foot had healed. Just as soon as he left the station, he made a trip to that office. A friend was surprised.

"Why do you keep going to the doctor? Your foot has healed."

"I'm reading a continued story in one of the waiting room magazines."

Safety zones are nice. Stand inside one and all an automobile can do is hit you a sweeping side blow.

A FAIRY STORY

Once upon a time Adam was toiling home at the end of a hot summer's day, carrying his shovel and hoe, while little Cain trotted beside him.

On reaching the Garden of Eden, little Cain peeped through the palings and said:

"Gee pop, I wished we lived here?"

And pop replied, "We did once, until your mother ate us out of house and home."

People who live in sedans shouldn't throw stones either.

SLEEP WALKERS

The chief called upon his friend who was in charge of the fire department in the neighboring city. Both were feeling in jovial mood.

"Did any of your men take up 'Art' Espey's idea and come to work in pajamas during the summer?"

"No," replied the other, "but the costume would have been appropriate for some of them."

PROGRESS

Benson had been given three days to attend the state firemen's convention. Three days is but a short period, but when one is away from accustomed duties, it seems to be a very long time.

So it was with some sense of satisfaction that Benson returned to his station after the convention. He stood in the doorway and surveyed the neat appearance of the apparatus floor.

"Has anything happened while I was away?" he called to an associate.

"No, except that the door that you are leaning against has just been painted again."

'Tis better to have loved and lost than to have to do the school homework of six children.

I STILL MAINTAIN THAT, EF YA LEFT THEM LADDERS OFF, THE HOSE HOUSE WOULD BE BIG ENUF!
IT'S SEVEN FEET HIGH; SPOSE HE'LL GO IN?
SHE'LL NEVER MAKE IT!
F D
1

Drawing by "Art" Espey

Now Some One Should Design a Collapsible Apparatus

Only those who have experienced village politics know the disappointments and worry before the council finally votes to buy new apparatus. And so a long time after an Illinois community had purchased the apparatus, and just after it had been delivered, the town discovered that their troubles were not over. The truck would not fit into the fire house. All the firemen were called for a consultation and with the aid of tape and measuring sticks, it was discovered that if a wall were torn out of the rear of the building, and a small extension made, the apparatus would fit—though snugly.

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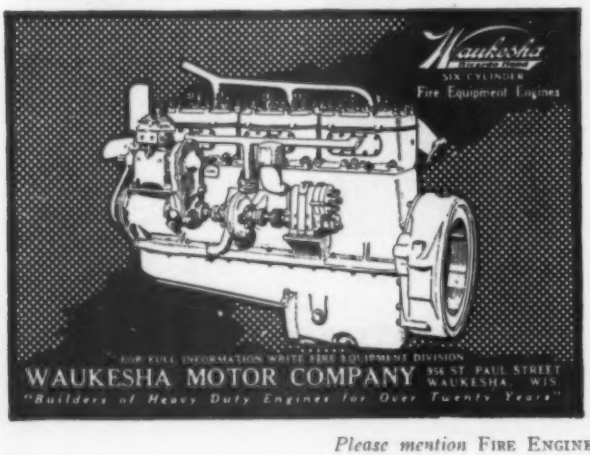

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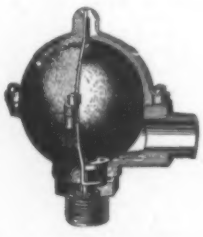

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Braxmar Co., C. G..... 909
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Clay, Inc., John H..... 978
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Don't Fear Mask Co..... 974
Du-Gas Corp..... 911

Eagle Signal Sales Corp..... 973
Eastman Co., Samuel..... 969
Eddy Valve Co..... 974
Elkhart Brass Co..... 958
Eureka Fire Hose Mfg. Co.....*Front Cover*
Everson-Ross Co..... 973

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Fulton Bag & Cotton Mills..... 901
Fyr-Fyter Co..... 973

Gamewell Co.....894-895
Globe Automatic Sprinkler Co..... 958

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Harrington-Seaberg Corp..... 973
Hedberg, J. N..... 965
Hewitt-Gutta Percha Rubber Corp..... 970

Information for Buyers..... **979**

Johns-Manville, Inc..... 908

Lally Fire Appliance Co..... 974
Larkin Mfg. Co..... 974

Mack-International Motor Truck Co., Inc.,
Back Cover
Maxim Motor Co..... 978
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Morley Signal Engineering Co..... 970
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Pirsch & Sons Co., Peter..... 978
Prospect Fire Engine Co..... 961

Reed's Sons, Jacob..... 974
Rensselaer Valve Co..... 978

Sanford Motor Truck Co..... 907
Seagrave Corp.....896-897
Stanley & Patterson, Inc.....*Inside Front Cover*
Sterling Siren Fire Alarm Co..... 893

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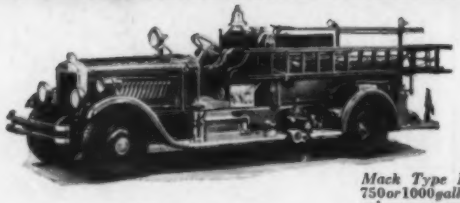

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